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CONTAINING

The *Farrier's Guide*; or, the *Horse Dissected*: Being the most accurate, and satisfactory Account of the Diseases incident to that noble Beast, ever yet publish'd; with their Signs, Symptoms, Prognosticks and Cures in all Cases. A certain cure for the GLANDERS, *without trepanning*; a never-failing cure for the *Grease*; and another for *broken winded HORSES*: wrote by way of *Dialogue*.

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Compiled after Thirty Years Experience,
By P. MONTAGUE, Gent.

D U B L I N:

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SECRET



T H E
H O R S E D I S S E C T E D
B E I N G

An Accurate Account of the *Diseases* incident to that Noble and Useful Beast.

With their Signs, Symptoms, Prognosticks, and Cures, in all Cases; their Beginning, Progress, and fatal Periods when neglected or unskilfully managed. Illustrated with several choice Remedies, never before made public; and a certain Cure for the Glanders without trepanning.

Written by Way of Dialogue between a Horse-Doctor and a Groom.

D O C T O R.

AS my chief design is to inform you of the several disorders incident to Horses, together with the most safe, easy, and effectual cures; I shall take up but little of your time in expatiating on their use, &c. we being every day convinced of the great service they are of to mankind, not only in their various labours, but as they concern both health and pleasure. If you are not sufficiently acquainted with the structure of this noble creature, it will not be improper to give a description of it, as it will be preparatory to your better understanding what I hereafter treat of.

A

Groom.

Groom. I shall be glad to have an account of it from a person of your judgment.

D. As the parts of a horse's body furnish a great variety of terms, you are to observe the hair and skin are called the coat; the long hair on the neck, the mane; the fore-top, the topping, or tuck; the hair behind, on the feet, the fetlock or fetterlock; that growing over the top of the hoof, the coronet or coronet; that on the eye-lids, the brill. The ridge whereon the mane grows is called the crest or crist; the fore-part from the neck to the fore-legs, the brisket, or chest; the mark frequently running down his face, the Rache; and that in the forehead the star. — The top of the shoulder-blades, at the setting on of the neck, is called the withers; the place where the saddle is set, the back; and a bruise, or hurt thereon a naval-gall; the middle of the back, from the mane to the hip, the reins; the extremity of the reins, above the hip, the croupe: the tail, the dock, or runt; the hollow, or sinking of the back bone, the sway, the hind part of the belly, next the genital, the flank; that nearer the thighs, the groin; the loose skin wherein the ward is, the sheath; and the fore parts of the shoulders next the breasts, the fillets. The uppermost part of the hind leg next the buttock, is called the stifle, or stifle-joint; the after-joint, or bending of the hind leg, the cambrel, or elbow; the inner ham, or hough; the joint at the fetlock, the pastern, ancle, or fetlock-joint; the foot above the hoof of the ancle-joint, the coronet. The part from the withers to the top joint of the fore leg, is called the shoulder; the middle joint of the fore leg, the knee; the right leg before, the off-leg; and the left, the near. The hoof is called the horn; the hollow of the hoof, the coffin; the tender part of the hoof, next the heel, the frush; the ball of the foot, the frog; the part to be pared or cut off the hoof, when over grown, the rift: the fore part of the hoof, the

the toes; the hind part, where there is a rising in the middle of the sole, the heel; and the insides, meeting on the heel, the quarters.

G. How should a horse be form'd, to be accounted compleat, and well made?

D. A horse, to be good and well made, must have three parts like those of a woman, *viz.* the breast, which is to be broad, the hips round, and the neck long: Three of a lion, *viz.* countenance, intrepidity, and fire: Three of a bullock, the eye, nostril, and joint: Three of a sheep, the nose, gentleness, and patience: Three of a mule, strength, constancy, and foot: Three of a deer, head, leg, and short hair: Three of a wolf, throat, neck, and hearing: Three of a fox, ear, tail, and trot: Three of a serpent, memory, fight, and turning: Three of a hare, running, walking, and suppleness.

G. How are the different kinds of horses distinguished?

D. They are differently denominated, with regard to their strain or country: The Neapolitan is known by his hawk nose: The Spanish genet, by his small limbs: The Barb, by his fine head and deep hoof: the Dutch, by the roughness of his legs: The English, by his strong knitting together. Horses are also distinguished with regard to the uses or offices they are reserved for, as the running-horse, hunting-horse, war-horse, coach-horse, road-horse, cart horse, pack-horse, &c.

G. How are the colours distinguished?

D. With regard to their colours, the bay admits of divers shades, or casts, *viz.* a black-bay, brown bay, dapple-bay, all which have constantly black manes and tails. Dun, and mouse-dun, have frequently a black list along the back, which denominates them flea-back'd, Flea-bitten, which is white, spotted with red. Grey, dapple-grey, silver-grey, sad or powder'd-grey, black-grey, sandy grey, and iron-grey, Grissel or rount,

a light rosin colour, intermix'd with white. Peach colour, or blossom colour. Pyebald, which consists of two colours, one of them white. Roan, a bay, black, or sorrel, intermix'd with white hair. Rubican, black, or sorrel, with white hairs scatter'd about his body. Sorrel, common sorrel, red, or cow-colour'd sorrel, bright, or light colour'd sorrel, burnt sorrel; all chiefly distinguished by the colour of their manes. Starling colour, resembling a brownish or blackish grey, only more freckled, or intermix'd with white. Tyger colour, much the same with the brindle-grey, only the spots smaller. Wolf colour. Deer colour. Black. White.

G. Which sorts are most valued for their colour.

D. It is hard to lay down any universal Rules. The white, which promise least, often prove good when black about the eyes and nostrils. There are also extraordinary good iron greys, tho' not reputed a valuable colour. The dapple-grey is priz'd for beauty; the brown-bay for service; the black, with silver hair, for courage; the roan, for countenance; the sorrel, black without white, and iron-grey, are reputed hot and fiery; the bright-grey, flea-bitten, and black with white spots, are sanguine; the white, dun, and pyeball, phlegmatic and heavy; the mouse-dun, red-bay, and blue-grey, are dull; the peach-colour rarely prove obedient to the spur; the Bay seldom fail of being good (if not spoil'd in breaking) especially if their legs, tails and manes be black: The same may be said of the flea-bitten; at least those so mark'd in the fore parts, or over the whole body; but when only behind, it is an ill sign.

G. How is the age of a horse known?

D. *The first year* he has his foal's teeth, which are only grinders and gatherers: *The second*, the four foremost change and appear browner and bigger than the rest: *The third*, he changes the teeth next to these, leaving no apparent foal's teeth, but two on each side above and

and two below ; *The fourth year*, the teeth next to these are chang'd, and no foal's teeth are left but one on each side above and below : *At five years*, his foremost teeth are all chang'd, and the tusshes on each side are compleat ; those which come in the places of the last foal's teeth, being hollow, and having a little black speck in the midst, and this is called, *The mark in a horse's mouth*, which continues till eight years of age. *At six years*, he puts up new tusshes, near which appears a little circle of young flesh, at the bottom of a tussh, the tusshes withal being white, small, short and sharp. *At seven years* the teeth are all at their full growth, and the *mark in the mouth* appears very plain. *At eight*, all his teeth are full, smooth, and plain, and the mark scarce discernable, the tusshes looking yellowish. *At nine*, the foremost teeth shew longer, yellower, and fouler than before, and the tusshes become bluntish. *At ten*, no holes are felt on the inside of the upper tusshes, which till then, are very sensible : Add to this, that the temples begin to be crooked and hollow. *At eleven*, his teeth are very long, yellow, black and foul ; but he will cut even, and his teeth stand directly opposite to one another. *At twelve*, the upper teeth hang over the nether. *At thirteen*, the tusshes are worn close to his chops, if he hath been much ridden, otherwise they will be black, foul and long.

G. Are these the only means of forming a judgment of the age of a horse?

D. No ; there are other ways of knowing whether a horse be young or old. For instance : if the hoof be smooth, moist, hollow, and well-sounding, it is a sign of youth. On the contrary, if rugged, and as it were seamed, one seam over another, and withal dry, foul and rusty, it is a sign of old age. Again, take a horse by the stern of his tail, close at the setting on to the buttock, and griping it between the finger and thumb, if a joint be found to stick out more than the

rest, the bigness of a nut, the horse is under ten; but if the joints are all even, he may be fifteen. the eyes being round, full and staring; the pits that are over them filled, smooth, and nearly even with their temples, and no wrinkles to be seen, either under or above, this is a sure mark of youth. The skin being plucked up in any part betwixt the finger and thumb, and let go again, if it returns suddenly to its place, and remains without wrinkles, it looks like youth. A dark colour'd horse, growing grisly about the eyebrows, or under the mane or a whitish horse growing meanell'd, either white or black all over, may be infallibly concluded extremely aged. Lastly a horse being young, the bars of his mouth are soft and shallow, otherwise they are deep, and feel hard and rough.

G. What diseases are horses incident to?

D. They are subject to a great number of disorders, and as many of them take their rise from colds, I will give you some account of this foundation of ills in the first place: colds are contracted oftener from hard riding than any other cause, especially when they are afterwards neglected, and left either in the cold air or cold stable.

G. In what manner does a cold make its appearance?

D. All colds do not affect horses in the same manner; but whenever the nose gleets, the kernels about the ears and under the jaws swell; when the horse appears dull and heavy; the eyes watry; when he is obstructed in breathing, appears feverish; works in his flanks; loaths his meat; the mouth slimy; ears and feet cold.—These are undeniable Signs of a cold.

G. Are they, when thus disordered, troubled with a cough, as in the human kind?

D. It is very common for horses to cough when they have taken cold, tho' it is not always a dangerous symptom, especially when he coughs strong, snorts,

snorts. and pricks up his ears, when he is brisk in his motions, dungs and stales freely, and has a good coat, &c.

G. Do you trust the disorder when these symptoms appear, to be carried off by nature?

D. Bleeding is recommendable, let the symptoms be ever so good; you are likewise to keep the horse warm, give him plenty of warm water, with a handful of oatmeal to every pailful, and give feeds of scalded bran, malt, &c.

G. What quantity of blood is necessary to be taken from a horse under these circumstances?

D. Almost two quarts; and if the disorder continues, you are to bleed him again, but take not so much in quantity as before, three pints being sufficient, unless the horse be very strong.

G. In case these means do not carry off the disorder, in what manner would you proceed then?

D. If the horse grows worse, infuse three ounces of anniseeds and half a drachm of saffron, in a quart of boiling water; let this stand four hours, then pour off as much as will run clear, add five ounces of honey, and four or five spoonfuls of the best sweet oil thereto, and give this drink, milk-warm, every night for a week; and where a fever is suspected, be sure give two or three ounces of nitre for four or five days, in his feeds or water; or dissolve three or four ounces of Cream of Tartar in his water every day for a week.

G. What is to be done when the horse is very costive?

D. Give the following emollient glyster, in case the cream of tartar fails of success.

[No. 1.]

Mashmallows and camomile flowers, of each two ounces; sweet fennel seeds and bay berries, bruised, one ounce each; boil these in one gallon of water

for an hour: When settled, add to the liquor half a pound of treacle, and a pint of linsed oil.

Before this be administered, a small hand well oiled, should be passed up the fundament, to bring away any harden'd dung, which might otherwise obstruct the passage of the glyster, if you find this not sufficiently laxative, you may give four ounces of either lenitive electuary, cream of tartar, or purging salts. It may likewise be found necessary, in order to hasten the cure, to give the following cordial ball.

[No. 2.]

Anniseeds, carrawayseeds, and greater cardamoms, finely powdered, of each one ounce; flower of brimstone, two ounces; turmerick in fine powder, one ounce and a half; saffron, 2 drachms; Spanish-juice, dissolved in water, two ounces; liquorice powder, one ounce and a half; wheat flour, a sufficient quantity to make into a stiff paste, by beating all the ingredients well in a mortar. The quantity given to be the size of a small egg, either in a ball, or dissolved in a pint of warm ale.

You may give this every other day for a week, but care is to be taken that the horse is kept warm, and that his hot mashes and warm cloathing are continued.

G. Is exercise required in this disorder?

D. If the weather be mild, moderate exercise does service, and so does frequent rubbing with cloths, especially about the neck and throat. When you give scalded bran, let it be put hot into the manger, as the steam from thence greatly promotes the running, and much forwards the cure.

G. Should hay be given while thus disordered?

D. Yes; but it should be small in quantity, and good in quality.

G. Are not rowels of service in colds?

D. Where

D. Where horses are fleshly, they often do good, and so does two or three gentle purges, when the disorder is pretty well removed, in which case I advise the following :

(No. 3.)

Senna, two ounces ; salt of tartar, 3 drachms, Infuse these in a pint of boiling water two or three hours ; pour off and dissolve in it three ounces of glaber salts, and 2 ounces of cream of tartar.

This is both easy and quick in its operation, and preferable in all inflammatory cases, to many other purges, as it passes into the blood and operates also by urine.

G. What are the symptoms of a fever ?

D. Restlessness, parch'd and dry tongue, red and inflam'd eyes, loss of appetite, high-colour'd urine made with difficulty, full and hard pulse ; and when the horse dungs often, and it comes from him in small hard bits, these are undeniable symptoms of a fever.

G. What is the proper method of a cure ?

D. If the horse be strong, take two or three quarts of blood from him, and then give a pint of the following drink three or four times a day.

(No. 4.)

Balm, sage and camomile flowers, each one handful ; liquorice root sliced, half an ounce ; nitre, three ounces ; infuse in 2 quarts of boiling Water ; when almost cold strain off, and squeeze into it the juice of two or three lemons, and sweeten with honey.

You are to give him scalded bran in small quantities, and his diet in general should be much the same as that given in colds. The following is likewise given once a day with good success.

A 50 kind of fever (No. 5.)

(No. 5.)

Take 2 ounces of salt of tartar, and one ounce of sal armoniac; dissolve these in 2 quartt of water, and afterwards mix it with a pail of river-water, adding a handful of bran or barley meal thereto.

If your horse refuses to feed, take more blood from him, and continue the drinks, to which you may add two or three drachms of saffron; and if his dung be knotty and hard, continue the emollient glyster. Great service has likewise been done in fevers by the following opening drink.

(No. 6.)

Cream of tartar, and gluber-salts, of each three ounces; dissolve in water-gruel or barley-water.

The day this drink is given, the glyster should be omitted; neither should the nitre drink be taken on the day this is administred.

G. What are the signs of a recovery in a fever?

D. Relish to food, and taking to lie down, are good signs of recovery. To forward the cure, walk him abroad in the air, and give plenty of sweet litter to rest him in the stable,

G. Are not some kind of fevers more fatal than others?

D. The compound fever is of a very irregular and dangerous nature; and, if unskilfully managed, often ends in death.

G. What are the symptoms in this kind of fever?

D. A slow fever, with languishing and extreme depressions; inwardly hot, and outwardly cold; eyes moist and languid; loss of appetite, continual moisture in the mouth; dung soft and moist, but seldom greasy; his staling is often irregular, sometimes little, something profuse, seldom high colour'd, but rather pale, with little sediment.

G. What is the most successful method of cure in this complicated kind of fever?

D. Moderate

D. Moderate bleeding, take a little above a quart at one time; but this should be repeated in proportion to his strength, cough, or any tendency to inflammation. After the second bleeding the fever-drink has often been given with good success; and that is much mended by adding thereto half an ounce of salt of wormwood, and two drachms of saffron and camphire; scalded or raw bran should be given for his feed, and hay that is very good, and only a small handful at a time. His drink should be thin water-gruel, scarce milk-warm, with a spoonful of lemon-juice to every pailful. If you find this treatment does not answer, and the horse grows worse, give the following drink:

[No. 7.]

Take camphire one drachm, dissolve it in rectified spirit of Wine, then gradually pour on a pint of distilled vinegar warmed, and give for 2 doses. The quantity of camphire may be increased occasionally.

If the horse be colic, recourse must be had to glysters or the opening drink; or should he purge, take care not to suppress it if moderate; but if by continuance the horse grows weak, diascordium is given with very great success. You are to take notice that camphire is a very powerful and effectual remedy in these kind of horse-fevers, being particularly calculated to promote the secretions of urine and perspiration. It does great service in malignant fevers, by giving motion to stagnant humours in the most remote parts, and promoting their expulsion by the common outlets, and nitre has been advantageously joined with it in many cases. During this disorder regard should be had to his staling; if it be too great in quantity, as it often depresses the spirits, it ought to be chequed by proper restringents, or preparing his drinks with lime-water; (*see the Article Lime-water*) but if it happens that he stales so little as to occasion a swelling of his body

body and legs, you are to administer the following drink :

(No. 8.)

Sal prunella, or nitre, one ounce ; juniper berries, and venice turpentine, of each one ounce ; make into a ball with oil of amber.

Three or four of these balls may be given at proper intervals with a decoction of mash-mallows, sweetened with honey. But notwithstanding the greatest care and skill, this fever carries off many brave horses.

G. What are the bad symptoms in this fever ?

D. Loss of flesh and appetite, and being hide-bound ; frequent sneezings ; when a discoloured glee is discharged from the nostrils ; swellings about the joints ; eyes looking fixed and dead ; stinking breath ; tail raised and quivering ; and when a purging ensues, with a discharge of fætid, dark colour'd matter ; these are bad signs, and accounted irrecoverable.

G. Is there not a fever of the intermitting kind among horses ?

D. The fever I have been speaking of is many times brought to intermit.

G. How do you proceed in such cases ?

D. As soon as the fit is over I immediately give an ounce of jesuit's bark, and repeat every five or six hours, till the horse has taken at least six ounces ; and should irruptions or swellings appear, you are to promote them, these being good symptoms at the decline of a fever, denoting a termination of the distemper, and that no farther medicines are wanting.

G. I remember an epidemic cold and fever among horses in the years 1749 and 1760, and many of them were cured by high bleeding and roweling.

D. I had

D. I had many horses in hand myself at the time you mention, and all did well: I used high bleeding, and gave an ounce of nitre two or three times a day in his water. To finish the cure I purged with the cooling purge, adding thereto an ounce of anniseeds bruised, than which there can be nothing better given. I have often known a single dose carry off a cold and slight fever.

G. What are thy thoughts of the hunter you have in hand, that was troubled so violently with the gripes.

D. The doctor who first viewed the horse was mistaken as well as you, in calling his disorder the gripes: It was a pleurisy and inflammation in the lungs, but many have fallen into the like mistakes.

G. How then are the gripes to be distinguished from these pleuretic disorders?

D. The grip'd horse often lies down and rolls; and when in violent pain he will have convulsive twitches, his eyes being turned up, and limbs stretched out, as if he was dying; his ears and feet are often hot, and frequently extremely cold; he falls into sweats, and then into cold damps; he often attempts to stale and dung, but with great pain and difficulty; and nature seldom carries off these bad symptoms without some assistance.

G. What are the symptoms in a pleurisy?

D. In that disorder, a horse's ears and feet are always hot, his mouth parched and dry, his pulse hard and quick; he will make many motions to lie down, yet afterwards runs back as far as the collar will permit, and make not the least offer to change his posture, but stands panting with short stops, and a disposition to cough, till he has relief, or drops down.

G. What are the symptoms of inflamed lungs?

D. Many of the symptoms are the same as in a pleurisy, except that the horse, in the beginning, is less

less active, and seldom or never offers to lie down; he breathes with great difficulty, and has, generally speaking, a short cough, when he opens his mouth a ropy slime will run plentifully out; he gleans also at the nose a discoloured thin matter, which sticks like glue to the inside of his nostrils; and his ears and feet very cold, and at other times in damp sweats.

G. What is the method of cure for the inflamed lungs?

D. Both these disorders require nearly the same treatment to compleat a cure, and depend very much on speedy, large and repeated bleedings. First, take near 3 quarts of blood; the next day take about two more; and if the symptoms do not appear more favourable, you are to follow bleeding, but not exceed a quart at one time. Horses, grown weak by age or infirmities, you are to bleed oftener, but considerably less in quantity. Mr. Gibson recommends rowels, one on each side the breast, and one on the belly. He likewise orders a blistering ointment to be rubbed all over his brisket, upon the foremost ribs.

G. What diet is proper in this disorder?

D. Both diet and medicines should be cooling, attenuating, relaxing, and diluting; and he should have warm mashes, and plenty of thin gruel, as in the fever. The following balls have been given two or three times a day with great success.

(No. 9.)

Spermaceti and nitre, of each one ounce; oil of anniseed, thirty drops; honey, sufficient to make a ball.

After having given one of these balls, you are to give the horse about a pint of thin barley-water, in which four or five eggs and two ounces of liquorice-root have been boiled, add to this the juice of two lemons. You are constantly to administer this drink, a few minutes after you give the ball above-mentioned.

A strong

A strong decoction of the rattle-snake root has done much good in pleuritic disorders, and may be given to full two quarts a day, sweeten'd with honey. It is by many reckoned a grand specific; and, indeed, it merits esteem, as it most assuredly attenuates the blood, and disperses the inflammation. Emollient glysters, with nitre and cream of tartar, have likewise been found beneficial.

G. Does the horse linger long under these disorders?

D. If he is not relieved in a few days, the inflammation generally terminates in a gangrene, or collection of matter; which, for want of expectoration, generally suffocates him.

G. Is nothing more to be done than what you have already prescribed, while the horse is thus disordered?

D. If the horse does not take to his feed after giving him the medicines already mention'd, but continues hot and short breath'd, bleed him again, and give him the following purging glyster.

(No. 10.)

Senna and marshmallows, of each two ounces; fennel and bay-berries, of each one ounce; boil these in two quarts of water for about an hour, pour off the clear part, and add thereto four ounces of purging salts, two spoonfuls of syrup of buckthorn berries, and half a pint of good linseed oil.

If you find this does service, it may be repeated again the next day but one. You may offer him scalded bran, and a very small quantity of choice hay for his feed; and if he takes it, you may leave off the pedtoral ball.

G. How is this discovered?

D. By its symptoms, which are, a remarkable stiffness of the body and fore-legs; sometimes with a short, dry, and very troublesome cough, and a shrinking, when handled in those parts. If not well cured, it lays the foundation of what is called a chest-founder.

G. How

G. How is this disorder cured.

D. Bleeding, soft pectorals, and gentle purges, are the internal remedies; and externally, the parts affected may be bathed with equal parts of spirits of sal-armoniack, and ointment of marshmallows, or oil of camomile.

G. What are the most approved cures for coughs?

D. Bleeding plentifully in most cases is recommendable; but should the horse be very low in flesh, it is to be done more sparingly. Then I advise the following alterative purge.

(No. 11.)

Take gumgalbanum, ammoniacum, and assafoetida, of each two drachms; aloes, one ounce; saffron, half a drachm; oil of anniseeds, and balsam of sulphur, one drachm each, with honey sufficient to make into a ball.

These may be given two or three times a week; and the days you do not administer this ball, give one of the following every morning.

(No. 12.)

Take cinnabar of antimony, finely levigated, five ounces; gumammoniacum, galbanum, and assafoetida, of each one ounce and half, juice of garlick, half a spoonful; make paste for balls with honey.

By this method I rarely fail of curing coughs, tho' they are ever so troublesome, or of so long standing. Moderate exercise and diet is to be observed; give hay in very small quantities, and now and then scalded bran, as in the fever, &c.

G. As I find bleeding is recommendable in a great number of cases, I should be glad to have some account of the operation.

D. The veins in a horse are very numerous, but those we open in disorders are, 1. The temple-vein, 2. eye-vein, 3. palate-vein, 4. neck-vein, 5. breast-vein, 6. plate-vein, 7. shank-vein, 8. coronet veins.

9. hoof-

hoof-veins, 10. spur-veins, 11. kidney-veins, 12. crural-veins, 13. flank-veins, 14. haunch-veins, 15. tail-veins, and, 16. the fetlock veins. The first is opened in all manner of cold diseases in the head; second, opened in disorders of the eyes; third, in disorders of the head, brain or stomach; fourth, the common place of bleeding for numerous disorders; fifth, opened in fevers, or when a horse is sick at heart; sixth, opened to relieve foundering in the feet, or other disorders of the limbs; seventh, opened for splents, mallandar, &c. eighth, opened in ring-bones, &c. ninth, opened likewise to relieve foundered feet; tenth, to relieve spur-galling, foundering, &c. eleventh, opened to relieve disorders in the kidneys; twelfth, opened to relieve the blood-spaven; thirteenth, to remove grief in the reins or fillets; fourteenth, opened in consumptions of the flesh; fifteenth, opened for the shedding of the hair, or manginess; and the sixteenth, opened to relieve stiffness, or tiring.

G. I have heard much of the new method of curing the glanders by trepanning; do you imagine it will answer what is said of it?

D. Very far from it! It was first invented by La Fosse, farrier to the king of France, and has lately been practised in England, with so little success, that now it is not regarded, notwithstanding the romantic stories in its favour, we find in a small book of farriery, the compiler of which seems to be so extravagantly fond of French novelty, that he glories in this horse killing scheme of monsieur's; and asserts, that the glanders never had, nor very likely would have met with a cure, had it not been for this ingenious Frenchman.

G. Is trepanning a dangerous operation?

D. La Fosse says not; and so does one of our countrymen, who has lately commenced *horse-doctor*. It appears La Fosse has very little to boast of from his
nine

nine or ten years toil, and *endless* study, he having trepanned only three horses all that time: And, according to his own account, after the cure was nearly compleated, they were all three knock'd on the head. And should we take the advice of our countryman, and go to trepanning, we should most certainly occasion a scarcity of horses.

G. What are the true symptoms of a glander'd horse?

D. A plentiful discharge of matter from the nose, which is either white, yellow, or greenish, and often tinged with blood. When the disease is of long standing, the matter becomes blackish, and very foetid; the horse is always attended with a swelling of the kernels or glands under the jaws; but in other respects he may be healthy, sound, and look well, unless the distemper has been of long continuance. But to proceed to a real, safe, English cure, you are first to take notice, that this disorder is caused by an inflammation of the glands and membrane that lines the nostrils and these cavities; which if not seasonably dispersed, forms matter, and will ulcerate and erode the bones, causing them to become rotten. &c. for want of a free discharge to unload the cavities, and of proper applications to cleanse and deterge the ulcers. La Fosse owns, that when the bones become rotten, it will then be the best way to dispatch the horse to save both expence and trouble, and that there is no possibility, in such case, of curing by the trepan: on the other hand he owns, that a cure readily takes place by easy and gentle medicines, where the bones are not impaired: I say, as this is exactly the case, may we not justly assert, that the trepan, is both a useless and a barbarous instrument?

G. I never saw but two horses trepanned; one died under the operation, and another was knocked on the head.

D. I have

D. I have lately seen four horses and three mares repanned, and six of them died in about a week after the operation, the other I have no account of,

G. What is your method of cure for this disorder?

D. The method of cure I shall lay down has lately cured upwards of fifty horses out of threescore; and provided my directions are carefully observed, I very much question if one in a hundred would miss of a cure. You are first to procure a close warm stable, keep the horse a day or two with small quantities of choice hay, and scalded bran; then over night blow up his nostrils as much assarabacca, in fine powder, as will lie on a six-pence, and repeat it again in the morning, his drink to be a weak lime-water; and this you may follow four or five days: Then take two ounces of elecampane-roots, boil them in a quart of milk till they are soft enough to mingle with it, which you are to give to the horse while it is warm; continue these three or four days, and afterwards give Markham's moss-water, which is, thus prepared: Take two handfuls of white moss, which grows on old oaken pales, and boil it in two quarts of milk till near one quart be wasted; then strain it, squeeze the moss well, and give it the horse milk warm. This you may continue 4 or 5 days, and about an hour after you have given the drink each day, proceed as follows: Take the quantity of a pullet's egg of good sweet butter, and about half an ounce of brimstone, well powder'd, and work these very well together into a salve; then take two clean goose feathers, the longest you can procure, and make a hole in each, at the quill ends, and fasten two long threads thereto, having done thus, anoint the feathers with your salve, till they are well soaked therewith, and after this roll them in dry powder of brimstone. You are now

now to open the horse's nostrils, and thrust up the feather ends into his head; and the threads which are at the quill-ends you are to fasten on the top of the horse's head, which keeps the feathers from dropping out. It is requisite, if the weather be mild, to ride your horse for an hour or two, morning and evening; and when you bring him to his stable, let him stand about half an hour before you take out the feathers, then give him a little hay, sprinkled with urine, and after that a little scalded bran. During this operation, it would forward the cure, if you bathe his head with spirits of wine camphorated, and afterwards confine his head over a tub of hot grains, in such a manner as he may have the benefit of the steam arising from them. Proceed in this manner for eight or nine days, and you need not doubt of a compleat cure: But to prevent a relapse, and to decoy the humours from their own channel, I advise a rowel; after which, give one of the following alterative balls every other day for a week.

(No. 13.)

Turbith mineral, one drachm; diapente, one ounce; make into a ball with honey.

You may then let your horse rest four or five days, and after give him about two ounces of nitre a day, either in his corn, water, or a ball, as you like best; but, however given, it must be finely powder'd: If made into a ball, it is to be done with honey, and thus you have a sure cure, at a trifling expence, and very little trouble.

G. It is said you have a never-failing cure for grease in the heels: I should be glad if you would communicate it to me.

D. I was always a friend to a horse, and as I perceive you are very diligent in acquiring cures for their disorders, I will put it into your power to do

to the beast service, and yourself credit. It has been often said to be incurable, like the glanders; but I can prove the contrary, as I have done in that disorder, without calling in a Frenchman to my assistance. You are first to cleanse the heels of a horse thus disordered with bran and water, as warm as the beast can bear it, and the wash is much more efficacious, if the bran has been boil'd for some time in the water, and about a quarter of a pound of hog's lard dissolv'd therein; let the heels be well wash'd and bath'd therewith twice every day; and after the horse has stood some time, and his heels are quite dry, rub them twice a day with the following ointment.

(No. 14.)

Verdegrise, four ounces; of the sharpest vinegar six ounces; honey 1 pound; let them all boil over a gentle fire to a dusky colour, adding towards the latter end, tincture of myrrh, roch-allum, and sal-armoiac, of each half an ounce; mix them well, and make into an ointment.

During the time you externally apply this ointment, it will be very recommendable to give the following sweetening drink every day for five or six weeks, as it comes for a trifle, and does much service.

(No. 15.)

Shavings of guaiacum two pounds; liquorice-root bruised three ounces; crude antimony, grossly powder'd, and put into a bag, one pound: boil them in ten quarts of clear water about an hour, and keep the decoction upon the ingredients in a clean earthen vessel for use.

You are to give three or four hornfuls two or three times a day: and after the heels have been dress'd a week with the ointment, you should wash them very well with the following lotion twice a day for eight or nine days successively.

(No.

(No. 16.)

Cream of tartar four ounces, sublimate four drachms; dissolve these in two quarts of spring water, and bathe the heels often therewith,

Before you use this lotion, it is the best way to wash the heels very well with hot water and bran, to cleanse them of the greasy ointment; and the lotion does more service when used hot; but then you are to take care you don't stand over the steam, it being of a very pernicious nature; and it is best to rub the heels either with a soft brush, or a piece of sponge.

G. Is this cure to be depended on in all cases?

D. In my whole practice it has very seldom fail'd

G. In the cases it fail'd, did you give up the cure or did you succeed by other remedies?

D. I have cur'd in many desperate cases, after being deem'd incurable by several others, by the means I have already mention'd; and the addition of a wash made of the powder of burnt (or rather dry'd) sponge.

G. How is this wash prepared?

D. You are to procure some small cuttings of sponge, the larger pieces being dear, and dry them in an oven till hard and crisp, then

(No. 17.)

Take half an ounce of the Powder of sponge, and dissolve it in a quart of spring water; add thereto honey and vitriol, of each one ounce, and wash the heels often therewith.

As these obstinate cases generally come from some internal cause. I advise bleeding, rowling, and frequent purging; and give the nitre either in ball of meat, or water, as before mention'd

G. What are the symptoms when you suspect the grease to proceed from some internal causes?

D. The legs are much gorged; the hair stares up, is penfeather'd, and has a large stinking discharge

from

om deep and foul fores: hence a dropical state of
the blood is suspected, and a general bad disposition of
the blood and juices.

G. Does not often lying down forward the cure?

D. Very much; Dr. Bracken has thought it so
material that he has given the following directions to
oblige the horse to lie down. *viz.* tie up one of his
feet close, and fasten a cord about the other fet-
terlock, bringing the other end of it over the horses
shoulders; then let him be hit or kick'd with your
stick, at the same time pulling his
tail'd knees, where he should be held till he is tir'd, but
he should not lie down soon, let him be thrust side-
ways against his quarters to throw him over; by forc-
ing him down several times in this way, you may
teach him to lie down at the same words you first used
for that purpose. Other means are recommended
for this purpose, such as tying the horse's tail with a
cord touching his skin with oil of vitriol, &c.

G. Is the grease the only disorder in the heels of
horses.

D. No; they are often troubled with scratches,
crownscabs and rat-tails. Scratches are cur'd nearly
by the same means as the grease; the heels are kept
supple with Currier's dubbing; and in obstinate cases,
the following ointment may be made use of.

(No. 18.)

Venice turpentine, four ounces; quicksilver one
ounce; incorporate well together by rubbing some
me; and then add honey and sheep's suet, of each
two ounces.

Anoint twice a day; and if the horse is fleshy,
bleed and purge; if in a bad state, give the alterative
all No. 13; or continue the nitre, as directed in
page 33.

G. What is the crown scab, and how cur'd.

D. It

D. It is a sharp, itching humour, that breaks out round the coronet.

(No. 19.)

Take maffmallows and yellow bafilicon equal parts, spread them in tow, and lay all round the coronet.

Give the ball No. 27, and afterwards the following diuretic drink, and the cure is compleated.

(No. 20.)

Take four ounces of yellow rofin; one ounce of fal prunel, grind them together with an oiled pebble, add a drachm of oil of amber, and give it in a pint of forge-water every morning, fafting two hours before and after taking, and ride moderately.

G. How are rat-tails known?

D. They are excrefcences which run from the pater-n to the middle of the fhanks; there are two for one dry, the other moift, the dry kind is cured by the following mercurial ointment.

(No. 21.)

Quickfilver one ounce; venice turpentine half an ounce; rub them together in a mortar till the globules of the quickfilver difappear; then add two ounces of hog's lard.

The moift kind is cured by the following drying wash and ointment.

(No. 22.)

Take half an ounce of roman vitriol, difsolve it in a pint of water, pour off the clear part into a bottle, add thereto a pint of camphorated fpirits of wine, the fame quantity of vinegar, and two ounces of Ægypticum.

The Ointment,

Honey four ounces; red-lead powder'd two ounces; verdigrife, in fine powder, one ounce; mix thefe well together and they are fit for ufe.

If the hardnefs does not fubmit to thefe medicines, fome advife the ufe of the knife; but in fuch cafes I rather

rather advise the following ointment, which rarely fails.

(No. 23.)

Black soap four ounces; quick lime two ounces; vinegar sufficient to make an ointment

G. It is said by many that broken-winded horses are incurable; what is your opinion of this disorder?

D. Some cases will not admit of a cure.

G. What are those?

D. Where the disorder is occasion'd by an uncommon size of the heart and lungs, which obstructs the free action of the midriff: In this case, little more is to be done than palliating the symptoms, and mitigating the violence.

G. What do you recommend in this case?

D. Sparing diet, moderate exercise, and being kept constantly abroad; if you give hay, let it be very sparingly, and wetted with urine; and either salts, cream of tartar, or lemon-juice, in the water, do great service; you may likewise give the admirable ball inserted in page 39, which is a certain cure, except where the disorder takes its rise from the cause we have just mention'd.

G. Is there nothing more to be done than what you have spoken of?

D. Three or four cloves of garlick given in their seed, or two or three ounces of it boil'd in a quart of skim'd milk, and tar-water given every other day for three weeks or a month, often does great service; and so does the following altering purg-
ing ball, which may be given once a fortnight.

(No. 24.)

Succotrine aloes five drachms, myrrh, galbanum, and ammoniacum, of each two drachms, bay-berries half an ounce, make into a ball with a spoonful of oil

amber.

B

G. Is

G. Is this disorder easy discover'd in the beginning?

D. Yes, and easily cur'd: before a broken Wind appears it is common for a horse to have an obstinate dry cough; a disposition to foul feeding; eating litter, and drinking much water; but bleeding and giving the ball mention'd in p. 39, prove an effectual cure.

G. How is the consumption in horses cur'd?

D. Bleeding in very small quantities, and often; feeding in the salt-marshes; giving tar-water for a considerable time, and at intervals, an ounce of the following powder twice a day.

(No. 25.)

Native cinnabar, or cinnabar of antimony, one pound; powder very fine, and add the same quantity of guaiacum and nitre.

G. How are the staggers discover'd? And what is the most effectual cure?

D. Drowfiness; watry eyes; a disposition to reel; feebleness; bad appetite, the head frequently hanging or resting on the manger; disposition to rear up, and apt to fall back when handled about the head; these are the common symptoms in the staggers. But if the disorder proceeds from wounds or bruises on the head, or matter on the brain, besides the above symptoms, the horse will be frantick by fits, will start and fly at every thing, and these last are dangerous cases, and so are those when horses fall down suddenly, and work violently at their flanks, without being able to rise.

G. What is to be done in these cases?

D. The vessels are to be empty'd as soon as possible, by striking the veins in several parts at once, and bleeding to full four quarts; to raise up the horse's head and shoulders, and supporting them with plenty of straw. After the fit, cut rowels; and give glysters night and morning, prepared with
a strong

a strong decoction of fenna and salt, or the purging glyster. It will also forward the cure to blow up his nostrils, once a day, as much assarabacca as will lie on a shilling : And, to prevent a relapse, give an ounce of equal parts of cinnabar of antimony and of gum guaiacum.

G. What are the symptoms of convulsions?

D. In convulsions the neck is stiff and cramp'd and almost immoveable, and frequently knots will arise on the tendinous part thereof; the muscles in general will be so much pulled, cramped, and stretch'd, that the horse looks as if nail'd to the ground; his skin is drawn so extremely tight all over his body, that it is very difficult to move it; his legs are stiff and stradling; and on forcing him to move, he is ready to fall at every step; his eyes are so fix'd with the inaction of the muscles, as gives him a deafness in his looks, he snorts and sneezes very often, and pants continually, with shortness of breath; and this symptom often increases till the horse falls down dead.

G. By what means is the horse relieved?

D. If fleshy you are to bleed plentifully, if not more sparingly; and give the following nervous ball.

(No. 26.)

Affasœtida half an ounce; Russia castor, powder'd, two drachms; valerian-root, powder'd, one ounce; make into a ball with honey and oil of amber.

You are to give this ball twice a day at first, and then once, it is to be wash'd down with a decoction of mistletoe, or valerian, sweeten'd with liquorice, or honey; an ounce of affasœtida may likewise be tied up in a piece of strong coarse linen bag, and put behind his grinders to champ on. To keep the body

open, give the emollient glyster No. 1 ; or the purge, No. 3.

G. It is said these disorders often arise from bots and worms : Have you met with any instances of this kind ?

D. A great many ; but where this appears to be the case, I give the following mercurial ball.

(No. 27.)

Mercurius dulcis, and philonium, of each half an ounce ; make into a ball with conserve of roses. You may give half the quantity in five or six days after.

I then give the following infusion, three or four horns twice a day, which I continue till the symptoms abate ; and the nervous ball may be given till the cure is compleated.

(No. 28.)

Penny-royal and rue, of each two handfuls ; camomile flowers one handful ; assafoetida and castor, of each half an ounce ; saffron and liquorice-root sliced, of each two drachms, infuse these in two quarts of boiling water, and pour off from the ingredients as you use it.

Repeated frictions are also very serviceable in convulsive disorders ; and the following emollient liniment has been often used with much success.

(No. 29.)

Nerve and mallow ointment, of each four ounces, oil of amber two ounces ; with a sufficient quantity of camphorated spirits of wine.

G. I have heard you have a certain remedy for disorders in the eyes ; I should be glad to know in what manner you proceed ?

D. If the horse is fleshly, bleeding is necessary ; give the cooling drink, and bathe the eye and the eye-lids with a clean sponge dip'd in the following repelling eye-water.

D. If

(No. 30.)

Rose buds two drachms; infuse these in half a pint of plantain-water boiling hot; when cold, pour off the infusion, and add to it one scruple of sugar of lead.

Sir Hans Sloane's ointment has likewise been us'd with great success in disorders of the eyes of horses.*

G. How is the drink prepared you give in the gripes that has afforded relief after many other medicines failed?

D. It is the drink very deservedly recommended by Burdon, and made thus:

(No. 31.)

Boil an ounce of pepper, or ginger, in a quart of milk; add thereto a handful of salt, and half a pint of sweet oil.

This is to be given warm; it soon purges, and certainly affords relief. In the dry gripes it will be also necessary to empty the strait gut with a small hand well oiled, and likewise to give an emollient oily glyster.

G. What is the best method of cure for the farcy?

D. Large bleedings, especially if the horse be fleshy; after bleeding give three or four ounces of cream of tartar and lenitive electuary; you may give this every other day for a fortnight; then give three ounces of nitre a day for a month, and anoint the buds and swellings with the following ointment morning and evening.

(No. 32.)

Ointment of elder four ounces: oil of turpentine, two ounces, sugar of lead half an ounce; white vitriol, powder'd, two drachms; mix those well together, and it is fit for use.

B 3

But

* You may find it at the end of the Receipts.

But when this disorder becomes inveterate, nothing exceeds mercurial and antimonial medicines.

G. Do the strangles and vives differ much in symptoms, or cure?

D. The strangles most commonly begin with a swelling between the jaw bones, and often extend to the muscles of the tongue; they occasion great heat and pain; and, till matter is form'd, the horse swallows with great difficulty. The vives differ from the strangles only in this; the swellings of the kernels under the ears (which are the parts at first chiefly affected) seldom come to matter but disperse by warm cloathing, anointing with mashmallow ointment, and a moderate bleeding or two. But should the disorder be too malignant to be carried off by those means, you may anoint with the mercurial ointment, No. 18.

G. Does the cure of the strangles differ from that of the vives?

D. In the strangles, nature is to be assisted in bringing the swellings to maturity, by keeping them constantly moist with ointment of mashmallows, and keeping the head and neck cover'd warm. If the swelling come to matter slowly, the following suppurating poultice may be applied hot twice a day.

(No. 33.)

Take the leaves of mashmallows eight handfuls; white lilly-root half a pound; linseed and fenugreek seed, bruised, of each four ounces; boil them in two quarts of water till the whole is pulpy, and add four ounces of ointment of mashmallows, and a sufficient quantity of hog's lard to prevent its growing stiff and dry.

Matter being formed, and the discharge made freely, dress with the following digestive ointment spread on tow, continuing the poultice over it.

Rosin

(No. 34)

Rosin and Burgundy pitch, of each one pound and quarter; honey and common turpentine, each six ounces; yellow wax four ounces; hog's lard three quarters of a pound; verdigrise, finely powder'd, one ounce; melt the ingredients together, but don't put in the verdigrise till removed from the fire, and then it is to be stirred in by degrees till the whole is cold.

If the fever run high, take away a moderate quantity of blood, and dilute with plenty of barley-water, mashes, &c.

G. Is bleeding necessary in the mange?

D. I usually take away three or four pounds of blood, and give a mild purge once a week for five or six weeks following. A sulphur ointment is also necessary, and to cleanse and purify the blood, I give antimony and sulphur for some weeks after; and this method seldom fails of curing.

G. What is the safest cure for the poll-evil?

D. If it proceeds from blows, bruises, &c. bathe the swelling often with hot vinegar; if you perceive an ouzing thro' the skin, use two parts vinegar, one part spirits of wine; and if there be an itching, heat and inflammation, you are to bleed, and apply poultices of bread, milk and elder flowers; you are likewise to give the mercurial ball, and repeat it occasionally. But, if there are signs of matter, the best method then is to forbear purging, and apply the ripening poultices, till it comes to maturity and burst of itself, or is opened with a knife, but great care should be taken to avoid the tendinous ligament that runs along the neck under the mane; when the matter is on both sides, so must the opening, and the ligament remain undivided. It sometimes happens, that a second incision is requir'd; in which case,

dress

34 The FARRIER'S GUIDE: Or,

dress with the common digestive of turpentine honey and tincture of myrrh. and after digestion with the precipitate ointment, or wash the sore with the following made hot, and fill up the cavity with tow soak'd therein.

(No. 35.)

Vinegar, or Spirits of wine, half a pint, white vitriol, dissolved in spring water, half an ounce, tincture of myrrh, four ounces; or it may be made sharper, by adding more vitriol.

Mr Gibson was so fond of this wash, that he declares he has cur'd a great number of horses without any other formality of dressing, than washing with this twice a day, and laying over the part a quantity of tow, soak'd in vinegar, and the white of eggs beat together.

G. Do you approve of firing in the bone spavin?

D. I always use the following ointment first: and should it fail of success, the swelling may be safely fired with a thin iron, fixed very deep into the substance,

(No 36.)

Take nerve and mashmallow ointment, of each two ounces, quicksilver one ounce, well broke, with an ounce of venice turpentine, Spanish flies powder'd, a drachm and a half, sublimate one drachm, oil of organum two drachms.

The hair is to be cut quite close, and the ointment to be apply'd very thick over the part; do this in a morning and tie up the horse all day without any litter till night; you may then untie him in order to lie down, and a pitch plaister may be laid over it, which should be bound on to keep all close.

G. Are not mallenders and fallenders much the same disorders.

D. Mallenders are cracks in the bend of a horse's knee, that discharge a sharp indigested matter: Fallenders

enders are the same distemper, situate on the bending of the hough, and occasion a lameness behind.

G. In what manner are they cured?

D. Cut off the hair, and wash them with a strong lather of old urine; then anoint often with the following ointment.

(No. 37.)

Æthiops mineral half an ounce; white vitriol one drachm; soft green soap six ounces.

On drying up, give the purge No. 11, and nitre is advantageously given for eight or ten days.

G. How are wind-galls to be cured?

D. You are to bathe the swelling two or three times a day with old verjuice, and bind it with a woollen cloth soaked therein: But if this does not succeed, pierce the swelling with an awl, and apply thereto, every other day, a small quantity of the blistering ointment, No. 36.

G. I have often seen the above restringents and bandage us'd with success in a blood-spavin.

D. If early apply'd, they generally answer the end very well; but if these means do not reduce the vein to its usual dimensions, the skin should be opened, and the vein tied with a crooked needle and wax thread passed underneath it, both above and below the swelling, and the turgid part suffered to disgest away with the ligature; and this purpose the wound may be dressed daily with turpentine, honey, and spirits of wine incorporated together.

G. How is the bog-spavin treated?

D. There is no better method of cure than what is laid down by Dr. Bracken; who says a bog-spavin is a collection of brownish gelatinous matter, containing a bag, or cyst, which he thinks to be the lubricating matter of the joint altered, the common membrane that incloses it, forming a cyst: This case he has taken great pains to illustrate in a young Colt

of his own, where he says, when the spavin was pressed hard on the inside of the hough, there was a small tumor on the outside, which convinced him the fluid was within side of the joint: he accordingly cut into it, discharged a large quantity of this gelatinous matter, dressed the sore with doffils dipp'd in oil of turpentine, putting into it, once in three or four days, a powder made of calcined vitriol, allum and bole: By this method of dressing, the bag sloughed off, and came away, and the cure was successively compleated without any visible scar. This disorder says a modern writer, will scarcely submit to any other method except firing, when the cyst ought to be penetrated to make it effectual; but in all obstinate cases that have resisted the above method, both the cure of this, and the swellings called wind-galls, should, I think, be attempted in this manner, If thro' the pain attending the operation, or dressings, the joint shall swell and inflame, foment it twice a day, and apply a poultice over the dressings till the swelling is reduced.

Having now given you an account of the various disorders incident to horses, with effectual cures adapted to the different cases, I shall take my leave: desiring you to pay a due attention to my new plan no longer than it does you credit, and the publick service.



The following excellent remedies having gained great reputation by the many cures they have performed, are added as a supplement to the Dialogue for the Good of the Publick.

A never failing cure for a cough in either horse or cow.

TAKE a quart of fresh ale, or good strong beer, warm it, and put thereto a pound of treacle, and a quarter of a pint of distilled anniseed-water; stir it well together, and give it the horse, or cow, after their ordinary meat; next morning give a pail of warm water, with a handful of oat-meal in it; with a small mash of malt, and a handful of beans for a horse.

The excellent ball for broken-winded horses, that has made a perfect cure of upwards of seven hundred, in less than nine months, after many other medicines tryed in vain.

Myrrh, Elicampane, and liquorice root, in fine powder, three ounces each; Saffron three drachms; Asa-fœtida one ounce; Sulphur, squills, and cinna-bar of antimony, of each two ounces; Aurum Mosaicum one ounce and a half; oil of anniseeds, eighty drops.—— You may make it into paste with either treacle or honey, and give the horse the quantity of a hen's egg every morning for a week; and afterwards, every other morning till the disorder is remov'd.

A wounded horse cured

A gentleman's horse was so flak'd, that a boy's hand might be put in between the shoulder blade-bone and

and the flesh, and cured by the following medicine.

They first washed the wound with white-wine vinegar, by tying a rag at the end of a stick; then they mixed over a fire, two pennyworth of venice turpentine, and two pennyworth of bole armoniac; then prepared a tent, which they besmeared with this ointment, and thrust it into the wound with a stick, leaving as much of the rag without the wound as might pull out the tent. In a fortnight's time it was cured.

To cure a swelling in a horse's back.

Boil soap in strong beer grounds, when off the fire, mix some spirits of wine with it, and bathe the part as hot as possible, and it will reduce a swelling in an hour's time. If you have not the spirits, make use of brandy or gin; dip a rag in it, and apply it to the humour, afterwards chamber or make a hollow place in the saddle,

To cure the prick of a nail

This wound is immediately cured, if a compound made of oil of turpentine and vitriol be applied so that the oil may reach the bottom of the wound; but if the nail has been in some time, and the part festered, the shoe must be taken off, the place searched for; and if found, apply the oil.

One of my cart-horses took up a nail in August, 1756, that ran into his hind foot an inch and a half deep, and stuck so fast in, that I was obliged to have it pulled out with a pair of pinchers; upon which, I poured some of this compound oil into the wound, and cover'd it with Burgundy pitch and rosin melted together; and thus the horse's foot was cured.

A horse's foot cut by a flint and cured

At another time, my till-horse had his hind foot cut so deep with a flint, that it bled very considerably. As soon as I perceived it, I applied the compound oil, and stopp'd the bleeding presently; for

it

it is the quality of the oil of vitriol to do this rather than the oil of turpentine. This done, I apply'd melted pitch and rosin as before and splinter'd it well on.

A horse's kick cur'd.

The horse's leg was swelled by it; upon which my neighbour apply'd a poultice of boiled and mash'd turnips mix'd with hog's lard, once a day. This asswaged the pain, and reduced the swelling; and to prevent the humour's falling down to the part, he rubbed in verjuice above the wounded part and thus made a speedy cure.

Tread of a horse's heel cured

It swell'd and run, and in time would have turn'd to a quitter, had I not immediately applied a remedy. I began with boiling soap in grounds of beer, and rubb'd it in very hot; then I mixed tar, fresh grease, horse turpentine and a little verjuice together, and heated the mixture in an iron ladle and apply'd it very hot. At three times using I cured my plow-horse.

A horse that cuts by going narrow, or by bad shoeing.

This sometimes comes naturally, sometimes by some stiffness in the place, or by bad and overbroad shoeing; which causes him to go so narrow behind with his hinder feet, that he frets one against the other, so that there grows hard mattery scabs, which are so sore that they make him go lame; the signs being his ill going, and the visible marks of the Scabs.

The cure: Anoint with horse turpentine mixed with fine powder'd verdigrease.

To stop bleeding.

Scrape a hat, or piece of woollen cloth with a knife, and apply it to the part, and it will stop it. If the horse bleeds at the nose, pound salt with the herb bettony, in a mortar, and put it into his nose. If the wound can be come at, make an ointment with

with honey, wax, horse-turpentine, hog's lard, and wheat flour; boil these together, stirring them well, till they become an ointment, then take it off the fire and keep it in a pot for use. If the cut be deep, tent it with this ointment, and spread a plaister of the same over it, and make the tent with flax or linen cloth.

Cankered tongue of a horse to cure.

Beat blue vitriol to powder, and mix it with old verjuice, and apply it by means of a rag tied to the end of a stick. This never fails of curing at two or three times using.

A Fistula cured

A waggoner, living near St. Albans, assured me, he cured a dog horse of a fistula, by pouring scalding tar into it several times.

This distemper is generally occasioned by the wringing of a saddle, by repeated gauling, and by a wrong method of treating it; and indeed the cure is often attended with difficulty, because the bottom of the fistula cannot be easily come at: therefore cutting the wound and proud Flesh, is often absolutely necessary. This malady is the most proper to come under the hands of a farmer, The following ointment will be of use.

To cure a horse's sore back.

If the wound is bad it must be laid open to the bottom, and digested with horse turpentine, beat up into the yolk of an egg, now and then washing it with a little spirits of wine, thus you need not fear the fistula: When drawn a little, dress it with the above mention'd black salve made hot, and spread on tow, or a thick linen rag, in order to incarn and heal it.

For curing the gravel in a horse's foot.

This sometimes happens by bad shoeing, or for want of shoeing, When the shoe is taken off, use the

he small drawing iron for scraping out all the gravel, and if there be any matter, wash it well first in chamber-lye, and then with coperas-water; stop up the foot with salt mixed with tallow, making it scalding hot; then clap tow over it with the shoe and splinter in it; keep the horse two or three days in the stable, and it will be soon well.

For horses that make bloody water.

Take one ounce of roch-allum, one drachm of cochineal, and two drachms of white vitriol, beat them all into fine powder, then boil a gallon of spring-water; and pour it on these ingredients.—This is called a Styptic-water, and sold as a great secret.

You should give the horse a quart or two of cold water immediately after the medicine.

To bring a horse to a good stomach, and strengthen it, and for stopping his scouring.

Take half an ounce of ellicampne powder, half an ounce of liquorice powder, and half an ounce of diopente powder; give this quantity in half a pint of the styptic-water, to the horse.

For killing of worms in horses.

A Devonshire gentleman, whom I furnished with a plough-man, assured me his master had a pound of the best roll tobacco, shred very fine; of which he gave his horse every day one ounce at a time amongst his wetted corn, &c. This was given every morning and night, but not to a horse that goes to grass. — If his case was desperate, you may give him more, even for some time.—It is a certain cure.

A Purge for the worms.

Take pure aloes in fine powder, one ounce, jalap-root powder'd two drachms, oil of anniseeds, a quarter of an ounce, mixed with syrup of buckthorn-berries; beat up the whole into a ball. This is to be repeated three times, allowing three or four days respite between each ball. Give it early in the morning,

ing, with warm water and some bran or oat meal in it, and exercise him every three or fours hours.
For a sprain in the back, or other parts of a horse's body.

Take horse turpentine, oxecroceum, paracelsus and minium; melt them and spread it on leather, and apply it properly, and it will draw and strengthen the part.

Shoulder Slip.

Boil wax, rosin and horse-turpentine, and olive oil and grease, with some others, and chafe this ointment in as hot as possible before a hot shovel.

How a farmer cured all his horses of the strangles in

1759

Six out of nine horses had the strangles; the old ones caught it of the young ones, as the old ones never had them before. The farmer applied poultices under the jaws, to draw out and break the humour there, but some broke out at the neck. He gave them two spoonfuls of flour of mustard to make them sneeze, and void the puffs more freely, and for warming their bodies. This, with hot mashes cured them all.

For a horse's foot, that is hurt by ill shoeing, or that has been forced to travel without a shoe.

Break a couple of new laid eggs, and after the gravel has been picked out of his foot clap it on, and put upon it cow dung, and he will be well by morning; or pare his feet, and then stop up with hog's lard and bran boiled together, bind it all round his feet, or stop up every night with cow dung and vinegar.

Best of eye water for a horse's eyes.

Take lapis caliminaris, venetian bole, best white vitriol, each one ounce; boil them in four quarts of water, in an earthen glazed pipkin, till it comes to one quart. Then add two drachms of sugar of lead salt of vitriol, 2 drachms, camphire dissolved in spirits

its of wine, a quarter of an ounce; tincture of aloes half an ounce; red rose-water, a quarter of a pint, prepared tutty half an ounce: Mix and keep it in a bottle for use. This is said to exceed all other eye-waters whatsoever, even to cure the stroke of whipcord on the eye, if swelled by that or a blow, first boil butter and beer with it till the swelling is gone then use the eye water.

To sweeten a horse's blood.

Some give half a handful of bay berries in powder and half a handful of juniper berries in powder, in a quart or three pints of ale, two or three times a year. Others think it better to give a horse an ounce of liver of antimony amongst his dry manger-meat once every day for a week together; but then the horse must not catch cold.

For the ringbone in horses.

The ringbone is an excrescence of flesh growing between the hair and hoof on the fore foot, of a grisly hard substance. To cure it, cut it to the quick with a penknife before it gets round the part, and put some powdered fresh lime on a rag and lay on the place; rest the horse three or four days in the stable, and then renew it.

This malady gives a horse great pain, but will be relieved by the lime; and if not cured in time, it will cause the horse to go very lame.

To provoke urine in horses.

Beat a handful of parsley root with half a pound of anniseeds, boil them in a quart of strong beer or more, then strain it, and add to the liquor half a pound of oyster-shell powder, which give him warm out of a horn.

The pack horse man's way to cure a sore back.

As soon as they come into an inn, they wash with salt water, then mix equal parts of urine and brine, which being made hot, they apply, and by often repeating

repeating it, makes a cure.—— They sometimes apply tanner's ouze, which is a liquor that remains after leather has been tanned in it.

A desperate prick of a nail cured.

The farrier cut away some of the hoof, to make the more room for the oils to enter, He then applied the compound oil of vitriol and turpentine; after that a mixture of rosin, burgundy-pitch, and horse turpentine melted together, and farther'd him with a hot poker; then put a rag over it, and nailed on a patten shoe. He dressed it twice with the oil and pitch mixture; and the third dressing was wound-water that harden'd and cured.

A horse cured of a surfeit.

Take as much fenugreek, hempseed, antimony and flour of brimstone, as will lie in a cockle-shell: But the damage lies in people's giving too much of these, for then it may do more harm than good.

To cure a sick horse.

Give him some groundsell to eat. At first, begin with putting a little into his mouth; or it may be cut small and given amongst his manger-meat. It is a wild herb, and may be gathered almost all the year, especially in corn fields. This is much in practice with the London coachmen.

To kill lice in horses.

They are bred for want of lying clean and neat, and by being kept poor. Rub some of the oil or ointment of russel on his rump, shoulder and neck; and it will do at once or twice using. Or, boil tobacco-stalks in chamber-lye, and wash first, then apply the ointment.

The mange cured by a gentleman's groom.

He mixes turmeric, fenugreek and liquorice powders; and if you will, he says, you may add some flour of brimstone for an internal cure; and for an external one, make use of ointment of russel; or Dr.

Dover's

es ap Dover's sublimate water; either rubbed well all over
s af he horse's body once or more, will cure the mange;
r if you will, you may add some butter of antimo-
y for an external remedy, as this is a violent caustic.



DIRECTIONS for breaking COLTS.

*The Manner of riding, and taming a Colt, of
the great kind.*

AFTER your colt hath been eight or ten days
at home, and is reduced to that familiarity
that he will endure currying without shewing aver-
sion thereto, and will suffer his keeper to handle and
stroke him in what part of the body he thinks best,
then it is time to offer him the saddle; first laying it
in the manger that he may smell to it, and thereby
grow acquainted with it, using all other means that
he may not be afraid either at the sight thereof, or
at the noise of the stirrups. Having gently put on
the saddle, take a sweet watering trench, wash'd and
anointed with honey and salt, and so place it in his
mouth, that it may hang directly about his tush,
somewhat leaning thereon: Having so done, which
must be in a morning after dressing, then lead him
out in your hand, and water him abroad, then bring
him in, and after he hath stood rein'd a little upon
his trench (an hour or there about) take off bridle
and saddle, and give him liberty to feed till evening,
and then do as before, having cherished him, dress
and cloath him for the night.

The next day do as you did before, and after that
put on him a strong *musrole*, or sharp *cavezan* and
martingal, which you should buckle at that length,
that

that he may only feel it when he jerketh up his head, then lead him forth into some new plow'd land, on soft ground, and there having made him trot a good while about your hand, to take him off from wantonness and wild tricks, offer to mount, which if he refuse, trot him again in your hand, then put your foot in the stirrup, and mount half way and dismount again, if he seems distast'd at it, about with him again, and let him not want necessary correction; but if he take it patiently, cherish him, and place yourself in the saddle; stay there a very little while, then cherish him again, and give him bread and grafs to feed on: Re-mount him again, placing yourself even in the saddle, and carrying your rod inoffensive to his eye, let some person, having the chaff-halter in his hand, lead him a little way, then go forward again; and this you are to do, till you have brought him to go forward of his own accord. When you return to the stable, a-light gently, and dress and feed him well.

Observe this course every day, till you have brought him to trot, which will not exceed three or four, if you make him follow some other horseman, stopping him now and then gently, and then making him go forward, remembering his seasonable cherishings, and not forgetting his due corrections as often as you find him rebellious. When you ride him abroad, return not the same way home, that you may make him take all ways indifferently; And by these observations you will bring him to understand your will and purpose in less than a fortnight's time.

Having brought your horse to receive you to his back, trot fore-right, stop and retire with patience and obedience; be never unmindful of your helps, corrections, and cherishings, which consist in the voice, bridle, rod, calves of the legs, and spurs; the

ne last of which is chiefly for correction, which must not be done faintly, but sharply, when occasion shall require it.

Cherishings may be comprehended within 3 heads, the voice delivered smoothly and lovingly, as *So, so* *oy, so*; then the hand by clapping him gently on the neck or buttock: Lastly, the rod, by rubbing him therewith upon the withers of the mane, in which he very much delights.

The next that you are to regard, is the *musrole*, or *cavezan*, or *martingal*; this is an excellent guide to a well disposed horse, for settling of his head in due place, forming of his rein, and making him appear lovely to the eye of the spectator, and withal this is a sharp correction when a horse jerketh out his nose, disorders his head, or endeavours to run away with his rider.

The manner of placing it, is thus: Let it hang somewhat low, and rest upon the tender grissel of the horse's nose, that he may be the more sensible of correction; and let it be loose, that the horse may feel, on drawing in his head, how the offence goes from him, and by that means be made sensible, that his own disorder was his only punishment.

You shall carefully observe how you win your horse's head, and by those degrees bring his Martingal streighter and streighter, so as the horse may ever have a gentle feeling of the same, and no more, till his head be brought to its true perfection, and there stay,

When you have brought your horse to some certainty of rein, and he will trot fore-right, then bring him to the treading forth of the large rings. If your horse's nature be slothful and dull, yet strong, trot him first in some new plow'd field; but if nimble, and of a fiery spirit, then trot him in sandy ground, and there mark out a specious ring; and having
walk'd

walk'd him about it on the right seven or eight times; you must then, by streightening your right rein a little, and laying the calf of your left leg to his side, make a half circle within your ring, upon your right hand down to the centre thereof, and then by streightening your left rein a little, and laying the calf of your right leg to his side, making another semi-circle to your left hand, from the centre to the utmost verge; which two semi-circles contrariety turned, will make a perfect Roman S within the ring; then keeping your first large circumference, walk your horse about in your left hand, as oft as in your right; then change within your ring, as you did before, to your right hand again, and trot him first on the right hand, then on the left, as long as you shall think convenient, either one, two, or three hours, to perfect him in his lesson, and this must be done every morning and evening too, if you find your horse slothful and dull, otherwise you need not take so much pains with him.

Having taught him to trot the large rings perfectly, which will not require above four or five days; then in the same manner and changes make him gallop the same rings, making him take up his feet so truly and loftily, that no falshood may be perceived in his stroke, but that his inward feet play before his outward, and each of a side follow the other so exactly, that his gallop may appear the best grace of all his motions.

Here note, you must not enter him at once to gallop this great ring, but by degrees, first quarter, then a half quarter, &c. ever remembring, not to force him into it with the spur, but by the lightness and chearfulness of your body, let him pass of his own accord into a gallop.

Helps, corrections, and cherishings in the ring-turns, are as aforesaid, the elevation of the voice, and

and the threatning of the rod, and streightening of the bridle, are good helps, which you must use, as you must the spur, rod, and leg, for timely due corrections: Neither must you ever cherish without desert.

Having made your horse gallop as well as trot the large ring, then teach him to stop fair, comely, and without danger, after this manner: First, having cherished him, bring him into a swift trot forward about fifty paces, then draw in your bridle hand straitly and suddenly, which will make him gather up his hinder and fore legs together, and thereby stand still: Then ease your hand a little, that he may give backward; which if he doth, give him more liberty, and cherish him. Having given him a little respite, draw in your bridle-hand and make him go back three or four paces, at which if he strike instantly ease your hand, and draw it up again, letting him come and go till he yield and go backward, but if he refuse it, let some person standing by put him back, and cherish him that he may know your intention. Thus every time you stop, make him retire, till you have perfected him in these two lessons at one time.

Have a care that the ground be not slippery where you stop, but firm and hard, lest the horse, apprehensive of the danger of falling, refuse to stop as you would have him.

When your horse can stop well, and retire, you must then teach him to advance before, when he stoppeth; a lesson that carrieth much grace and comeliness therein; it is performed in this manner: After you have stopped your horse without giving your hand any ease, lay the calves of both your legs hard to his sides shaking your rod, and crying *Up, up,* which, tho' he understand not at first, yet by frequent practice with helps, cherishings, and corrections,

ons, as aforesaid, he will come to understand your meaning. But be sure you look narrowly to the comeliness of the advancing, which consists in taking up his legs both even together, bending them inward to his body; next, his advantage must not be too high, for fear of his coming over upon you; but let him couch upon his hinder loins close to the ground, but by no means suffer him to sprawl or paw with his feet forward. Lastly, he must not advance for his own pleasure (for that is a great fault) but for yours, according to your will and command.

If in advancing he rise too high, ready to come over, or sprawl or paw; give him not only your spurs both together, but lash him twice or thrice with your rod between his ears, and if he advanceth of his own accord, then jerk him over the knees, doing so as often as he commits those faults.

The use of advancing is this, it not only graceth all other lessons, but makes his body nimble, and fits him for ready turning: It is most used in stopping, and then very gracefully.

In the next place, you are to teach your horse to jerk out behind, after this manner: As soon as you have made him stop, presently give him a jerk under his belly, near his flank, which will make him understand you in time, though not presently. At first doing, cherish him much, and having let him pause, make him do it again, till he is ready to repeat it as often as you would have him; but withal look to the comeliness of his jerking, for it is not graceful for him to jerk out his hinder legs till his fore legs be above the ground, and see that he jerk not one leg farther out than the other, but both being together, and not too high, or one leg out whilst the other is on the ground.

Helps in jerking, are the constant staying of his mouth on the bridle, the stroke of the rod under his belly,

belly, or a gentle touch thereof on his rump.

If he refuse to yerke, or doth it disorderly, then a single spur on that side that is faulty; and lastly, continual diseasing him till he hath done it.

Now to teach him to turn readily on both hands, is first to bring his large rings into a narrower compass, that is, about four yards in circumference, walking your horse there in with all gentleness, and at his own pleasure. till he is acquainted therewith. After this, carry your bridle hand constant, and somewhat strait, the outmost rein straiter than the inmost, making the horse rather look from the ring, than into it; and thus trot him about, first on the one side, then on the other, making your changes as aforesaid. Thus exercise him an hour and a half, then stop, and make him advance three or four times together, then retire in an even line, and afterwards stand still and cherish him; Having paused a while to recover breath, exercise him as aforesaid, still endeavouring to bring his trot to all the swiftness and loftiness possible, making him do his changes roundly and readily, and causing him to lap his outmost leg so much over his inmost leg, that he may cover it more than a foot over: And thus exercise him seven or eight days, every morning at least 3 hours, and suffer him only to practice his former lessons once in a morning; in this manner you teach your horse three lessons together, the *Terra a Terra*, the *Incavalera*, and the *Chambletta*.

The turn *terra a terra* in the outmost circle of the strait ring, and the *Incavalera*, and *Chambletta* in the changes, wherein he is forced to lap one leg over another, or else to lift up the hindermost leg from the ground, whilst he brings the outmost over it: This lesson is so difficult, that a compleat horseman should think his horse hath never perfectly learn'd it, therefore he must continually practice

his horse in treading, trotting and galloping these narrow rings, and from thence to pass them about the ground salts, as from taking up his fore feet from the ground both together, and bringing his hinder feet in their place, and so passing the ring as often as the strength of your horse, and your own reason will allow of.

Thus you see the perfecting your horse in the large ring, will easily introduce him to the knowledge of the strait ring, and that brings him to turn perfectly, and stopping begets retiring and retiring advancing.

Having brought your horse to this perfection, take off his *musrole* and *trench*, and in their stead put on his head a gentle *cavezan*, in such manner, that it lie on the tender grissel of his nose, somewhat near the upper part of his nostrils; put in his mouth a sweet smooth cannon-bit, with a plain watering chain, the check being of a large size, let the *kinble* be thick, round, and large, hanging loosely upon his nether lip, so that it may entice him to play therewith.

Having so done, mount, casting the left rein of your *cavezan* over the horse's right shoulder, and bear it with your thumb, with the reins of the bit in your left hand, let the right reins of the *cavezan* be cast over his left shoulder, and bear it with your rod in your hand, and so trot him forth the first morning about two miles in the highway, making him now and then stop and retire, and gather up his head in its due place; the next day bring him to his former large rings and perfect him therein with the bit, as you did with the snaffle in all the foregoing lessons, which is more easily done, by reason the bit is of better command, and of sharper correction.

The

The next thing we shall speak of is the turning-post, which must be smooth and strong, and very well fixed in the centre of the strait ring, then causing some person to stand at the post, give him the right rein of your *cavezan* to hold about the post, and so walk or trot your horse about the same as oft as you think fit on your right hand; then change your right rein for your left, and do as before; continue thus doing till your horse be perfect in every turn. Having so done, teach him to manage the proper posture for a sword, which is thus performed: cause two rods to be prick'd in the earth at what distance you think fit from one another; then walk your horse in a strait ring about the first on your right hand, passing him in an even furrow down to the other rod, and walk about that also in a narrow ring on your left hand then thrust him into a gentle gallop down the even furrow, till you come to the first rod, and there make him stop, as it were, and advance without pause and intermission of time, thrust him forward again, beat the turn *terra a terra* about on your right hand; then gallop foreright to the other rod, and in the same manner beat the turn about on the left hand, do this as often as you think convenient; though there are many sorts of maneges, yet I hold but two, necessary and useful, and that is this already described, called *terra a terra*, and *incavalera* and *chambletta*, aforementioned. As for the career, I need not speak much thereof; only this, when you run him foreright at full speed, stop him quickly, suddenly, firm, and close on his buttock, and mark that you make not your career too long, nor too short; the one weakens, and the other hinders the discovery of his true wind and courage; therefore let not the length of your career extend above six score yards; and before you give him

him some little warning by your bridle-hand, before you start him, and then stop him firmly and strongly.



RACE-HORSES.

Directions for the Management of a Race-horse.

THE best time to take a Race-Horse from Grass is about Bartholemew-tide, the day being dry, fair and pleasant, as soon as he is taken up, let him stand all that night in some convenient dry place to empty his body; the next day put him into a stable, and feed him with wheat straw, but no longer; for though the rule be good in taking up horses bellies after this manner, yet if you exceed your time in so doing, this straw will straiten his guts, heat his liver, and hurt his blood; therefore what you want in straw, let it be supplied by riding him forth to water morning and evening, airings, and other moderate exercise. And for his food, let it be good, old, sweet hay, and cloath him according to the weather and temper of his body; for as the season grows colder, and thereby you find his hair rise and stare about his neck, flanks, or other parts, then add a woollen cloth or more if need require, till his hair fall smooth. You are to observe, that a rough coat shews want of cloth, and a smooth coat cloth enough.

A race horse ought to be dress'd in his resting days twice a day, being his morning and evening watering, and should be done after this manner: Curry him from the tips of his ears, to the setting of his tail, all his body entirely over with an iron comb, his legs
under

under the knees and grambles excepted ; then dust him and curry him high again all over with a round brush and bristles ; then dust him the second time, and rub all the loose hair off with your hands dipp'd in fair water, and continue rubbing till he is quite dry, then rub every part of him with a hair-cloth, and lastly, with a white linen cloth ; then pick his eyes, nostrils, sheath, cods, teal, and feet very clean, and cloath him and stop him round with wisps.

There is no better water for a race horse, than a running river, or clear spring, about a mile and a half from the stable near some level ground, where you may gallop him afterwards, having scop'd him a little, bring him to the water again, then scope him and bring him again, till he refuse to drink more for that time ; after this, walk him home, cloath and stop him up round with great soft wisps, and having stood an hour upon the bridle, feed him with sweet sound oats, either dried by age or art : If your horse be low of flesh, or hath a bad stomach, add one third of beans to two parts of oats and that will recover both.

The next food you give him must be better and stronger, which is bread, to be made after this manner : Take two bushels of beans, and one of wheat, and grind them together, then boul't thro' a fine range the quantity of half a bushel of pure meal, and bake it in three loaves, and the rest sift thro' a meal-sieve, and knead it with water and good store of barm, and bake it in great loaves ; with the coarser bread feed your runner in his resting days, and with the finer against the days of his exercise and greatest labour.

The times of his feeding, upon the days of his rest should be after his coming from water in the morning, an hour after mid-day, after his evening watering, and at ten o'clock at night ; but upon his labouring days, two hours after he is cooled, he is to

be fed in the following manner; Let his hay be dry and short: if it be sweet, no matter how coarse it is, for if it be rough it will scour his teeth. As for the proportion of his food, I need not prescribe a quantity, since you must allow him according to the goodness or badness of his stomach.

His exercise ought to be thrice a week, and it must be more or less according to the condition of his body; for if it be foul, exercise him moderately to break his grease; if clean you may do as you think fit, having a care that you discourage him not, nor abate his mettle; and after every exercise give him that night, or the next morning, a scowering, the following being extraordinary good to purge a horse from all grease, glut, or filth whatever, I recommend it before any other: Take three ounces of anniseeds, 6 drachms of cumminseeds, a drachm and a half of carthamums, two drachms of fenugreek-seed, and brimstone two ounces; beat all these to a fine powder, and searse them; then take of sweet oil about a pint, a pound and a half of honey, and two quarts of wine; then with fine white meal, knead it well into a strong paste, and keep it by you for use, it being first made up into balls, about the size of a hen's egg: You are to dissolve one of these balls in a pail of fair water (milk-warm) and give it him to drink after exercise, in the dark, lest discolouring the water, the horse refuse to drink. This is a very valuable scowering, will keep good a long time, and a certain remedy for many internal distempers.

After exercise, cool him a little abroad before you bring him home, then house him, and litter him well, rubbing him with dry cloaths till there be not a wet hair about him, then cloath and wisp him round.

Before

Before you air your horse, it will be requisite to break a raw egg into his mouth, as it will add much to his wind. If he be fat, air him before sun-rise, and after sun set, but if lean, let him have as much comfort of the sun as you can. Courfing in his cloaths is sometimes necessary, as it makes him sweat, tho' it should be moderately done.

Let his body be empty before you course him, and wash his tongue and nostrils with vinegar, or piss in his mouth before you back him: After courfing is over, cloath him, and ride him home gently.

Be careful when you take your horse up, to cloath and dress him well, when and how to feed and water, what and how much exercise is requisite, either by airing or courfing, his ordering after exercise, what scowerings are most requisite: and that I may yet add more to your knowledge, I will conclude with the following necessary rules and instructions.

1. Course not your horse hard, at least four or five days before you run your match, lest the soreness of his limbs abate his speed.

2. Except your horse be a foul feeder, muzzle him not above two or three nights before his match, and the night before his bloody courses.

3. As you give your horse gentle courses, give him sharp ones too, that he may as well find comfort as displeasure thereon.

4. Upon the match-day, let your horse be empty, and take his rest undisturbed, till you lead him out.

5. Shoe your horse every day before you run him, that the pain of the hammer's knocks may be out of his feet.

6. Saddle your horse on the race-day in the stable before you lead him forth, and fix both the pannel

and the girths to his back and sides with shoe-maker's wax to prevent all dangers.

7. Lead your horse to his course with all gentleness, and let him smell to other horses dung, that thereby he may be enticed to stale and empty his body as he goes.

8. Lastly, when you come to the place where you are to start, first rub his limbs well, then uncloath him, take his back, and the signal given, start him with all gentleness possible, lest doing any thing rashly, you choak him in his own wind.

A race horse ought to have all the finest shapes that may be; but above all things, he must be nimble, quick, and fiery, apt to fly with the least motion. Long shapes are tolerably good; for tho' they shew weakness, yet they assure sudden speed. The best horse for this use is the Arabian Barbary, or his bastard: Gennets are good, but the Turks much better.

The End of the FARRIERY.



Miscellaneous Articles.

To keep all sorts of fire Arms and Steel from Rust.

TAKE a quarter of an ounce of camphire and half a pound of hogs lard, dissolve them together over a very slow Fire, and take off the scum, then mix as much black-lead as will bring them to an iron colour, spread it over your arms, steel grates or Fire Irons, and let it lie 24 hours, then clean them as well as possible with a dry linen cloth, and they will keep six months: but when you lay by your irons, the general way is to try mutton suet; rub the irons well with it, roll them in papers, and so lay them by the winter; but goose-grease is far beyond it, and keeps irons much better, and is a very good thing to clean irons at any time, rubbing it off dry with a linen cloth, and after that with scouring paper; they will look well, and do without any thing else.

An excellent receipt for black Ink.

One quart of rain water, four ounces of blue galls of *Aleppo* bruis'd, two ounces of copperas, two ounces of gum arabick, shake or stir it once a day for a week.

Another for red Ink.

Three pints of stale beer, four ounces of ground brazil wood, simmer them together for an hour, then put in two ounces of roach allum, strain it thro' a flannel and bottle it up.

How to take the natural and lively shape of any plant, or herb, upon paper.

Take the leaf, and lay it smooth between the leaves of a book; let it remain there a few minutes, till it lies quite flat, afterwards wet it with linseed-oil or printer's ink; then press it hard upon clean white paper (that has been moisten'd with river water) and you will have the perfect figure of the said leaf, with every vein thereof so exactly express'd, as being lively colour'd, it will seem truly natural.

How to whiten copper or brass, superficially.

Take sal armoniac, allum, nitre, of each a like quantity; put to them a little filings of silver, or silver leaf; mix them well together, and then put them into a crucible, and that into the fire, till it be red hot, and has done smoaking, then moisten this powder with water, wherein common salt has been dissolved, and rub the mettle therewith.

How to make fine staining liquors, used in planning, beautifying, and staining of prints, &c.

First, a deep green.

Take juice of the greenest worts a pint, strain it thro' a cloth, and dissolve it in a sufficient quantity of purified verdigrease.

Another

Another Green.

First, stain the leather, parchment, or paper, with a blue, and let it dry : then lay on some of the following yellow stains.

Yellow stains.

Saffron, turmeric, French berries, orcanette. or gambooge ; any of them will give a good yellow.

A light green.

Take a quart of malt-wort, put it into two shells full of florey ; first stain with this, then upon this staining lay yellow, till it becomes green ; the more you lay on of your yellow staining liquor, the lighter the green will be.

A blue stain.

First make a weak lixivium of pot-ashes, or use lime-water : put into it a sufficient quantity of florey, and a little allum ; let it dissolve over the fire, keeping it stirring, then add some wood-ashes, and you will have a fine blue,

A weaker blue.

Dissolve a good quantity of Florey, and a little allum in a sufficient quantity of fair water,

To guild with leaf gold.

Grind leaves of gold in a few drops of honey ; add to it a trifle of gum-water, and it will be excellent to write or paint with.

How to gild leather.

Take glair of eggs, or gum-water, and with a brush rub over the leather with either of them, then lay on the gold or silver ; let them dry, and burnish them.

To make fine red hard sealing wax.

Take half a pound of shell, or gum-lack, melt it in an earthen vessel ; then put an ounce and a half, or two ounces of purely ground fine vermillion, mix them well over the fire, and when it is of a fir composition, make it up into balls or cakes ; and to set
a gloss

a gloss upon it, heat it gently over a naked charcoal fire, and rub it with a cloth till it is cold.

How to make a coarser sort.

Shell-lack and rosin, of each six ounces, good vermillion three ounces; mix, &c. as above directed. Many use fine red lead, instead of vermillion, for the more ordinary kind of sealing wax.

How to make black wax.

Mix ivory black with shell or gum-lack as by the foregoing receipt.

How to make sealing wafers.

Take very fine wheat-flour, mix it with glair of eggs, isinglass, and a little yeast; mix the materials, and beat them well together, spread the batter (being made thin with gum water) on even tin plates, and dry them in a stove, then cut them out for use. You may make them of what colour you please, by tinging the paste with vermillion, or brazil for red; indigo, or verditer, for blue; saffron, turmeric, or gambooge for yellow.

How to case harden iron.

Take cow-horn, or hoof, rasp it when green (and not dry it in an oven after the common method) put as much bay-salt as of this powder into stale urine, or vinegar, and mix them well together; then cover the iron all over with this mixture, and wrap it up in a loam, or plate-iron, so that the mixture may touch every part of the work; then put it into the fire, and blow the coals to it, till the whole lump has attained a blood red hot (but no higher) then take it out, and quench it in clean water.

How to gild paper.

Mix bole armoniac with rain water, and give one laying of it; when it is dry, take glair of eggs, and add to it a little sugar-candy and gum-water, which lay over the former, and upon this, when it is dry enough, lay leaf-silver, or leaf-gold.

To lay mezzo-tinto prints upon glass.

Having provided a thin ground glass very true, or a sort of fine white glass, call'd cockhill glass (of the same size as your picture) steep the print flat ways in warm water for about an hour, more or less, according to the thickness, thinness, or hardness thereof, and then, with a thin knife or brush (the hairs of which will not come out) spread venice turpentine very thin and even all over the glass; and if the weather be cold warm the glass at the fire, and daub it all over with your Fingers, that there may not be the least speck of the glass that is not covered with the turpentine. Then take the print out of the water, and lay it on a smooth table, upon a clean napkin, or between two papers, to dry out all the superfluous water. When you have done this, lay the print upon the glass by degrees, beginning at one end, and stroaking outwards that part which is just fasten'd to the glass, that no wind or water may lie betwixt that and the glass, which will cause blisters, and which you must be very careful to stroke out. If it shall happen that you have not laid the print exactly even upon the glass, then by warming the foreside of the glass before the fire, it will so soften and thin the turpentine, that you may, with care, take it off again immediately, not suffering the print to dry. Your print being laid upon your glass in the most exact manner, you should now proceed to rub it with your finger, in order to rub off all the thickness of the paper, which will come off in little rolls, till nothing of it is left upon the glass, but a little film, like a cobweb, that is fast stuck to the glass by the turpentine; but great care is to be taken in rubbing, that you make not holes in the print, especially in the lights, which are the most tender parts. If your picture be large, so that some part of the paper shall become dry, while you are rubbing

rubbing the other, you should, with a little water on your finger, wet them as you see occasion, to keep them moist, for the paper will not rub when grown dry. When you have peeled it all over, till the print appears transparent on the backside, then set it up to dry for four hours; after which, varnish it over with mastick varnish, or turpentine varnish, four or five times, or so often till you can see clearly thro' it; and after twenty-four hours, you may proceed to painting it.

Instructions for painting the above mention'd prints.

The painting of mezzo-tinto prints, is performed with colours either opake, or transparent. The transparent colours are chiefly carmine, fine lake, brown pink, fine smalt, distilled verdigrease, and ultramarine. The opake colours are flake-white, yellow, or dutch pink, light and brown red, terra-vert, umber, cologn-earth, ivory-black, vermillion, blue-bice, masticot, yellow and pale red orpiment. All transparent colours must be ground with nut-oil, opake colours with gum-water, some with gold size, and some with linseed-oil, and drying oil.

How to silver looking glasses.

A thin blotting paper is spread on a table, or smooth stone and sprinkled with fine chalk; and then a fine lamina, or leaf of tin (call'd foil) is laid over the paper; upon this mercury is poured, which is equally to be distributed over the leaf with a hair's foot, or cotton: Over the leaf is laid a clean paper, and over that the glass plate; the glass plate is pressed down with one hand, and the paper drawn gently out with the other; this done, the plate is cover'd with a thicker paper, and loaden with a great weight, in order to force out the superfluous mercury, and make the plate adhere to the tin. When it is dried, the weight is removed, and the looking-glass complete.

Excellent

Excellent method of cleaning any kind of glass.

First rub the glass well with snuffs of candles; clean it well from this, and rub it well all over with good soft lead. You are to rub lastly with buff leather, and your work will look very beautiful.

Against moths, worms, &c.

Dry the herb botris. strew it among your cloths, and neither moth nor worm comes near them.

To prevent the smoaking of lamp oil.

Steep your match, or cotton, in vinegar, and dry it well before you use it. — Many families have spoke much in praise of this.

The excellent royal liquid blacking.

Mix a sufficient quantity of good lamp-black with an egg, to give it a good black, then take a piece of sponge, dip it therein, and rub over the shoe, &c. very thin, when dry, rub them with a hard brush, and they will look very beautiful. — You are to take care the shoes are first well cleaned with a hard brush, otherwise they will not look near so beautiful.

Admirable way of cleaning silver plate.

Put your plate in some strong lee, made of pearl-ashes, wherein half an ounce of cream of tartar, and the like quantity of allum has been dissolved. Set it over the fire, let it boil five or six minutes; then take out your plate, let it dry either in the sun, or by a Fire, and afterwards rub it with a soft leather and ashes of burnt wheat straw. By this means, the plate looks like new, and remains so a long time. But where time won't permit to do as above directed you may clean with the ashes only.

To clean jewels, pearls, &c.

There is nothing cleans any kind of jewels like exceeding fine smalt and emery. — You are to dip a fine tooth-brush into these two powders (mixt together)

ther) and rub the jewels therewith. Both powders must be well dry'd. Pearls are to be wash'd with a strong lee of burnt tartar, and boil'd upon a warm stove.

To clean old silver lace.

Take powder of alabaſter, put it into a dry pipkin, and let it boil a quarter of an hour; then take it off the Fire, and when cold, lay your lace upon a cloth, and with a comb-bruſh, take up ſome of that powder and rub the lace therewith on both ſides. Ox-gall, or the gall of a jack, mixed with water, is very ſerviceable in cleaning either gold or ſilver lace.

To make excellent vinegar of malt liquor.

To every 2 gallons of liquor, add one ounce of cream of tartar, and the like quantity of allum and bay ſalt; mix theſe with a gallon of the drink, boiling hot, and put it hot into the caſk, cover the bung-hole with a piece of brown paper, and it will be fine vinegar in a few days. This receipt has been often ſold for Five Shillings.

Spots very effectually taken out of either Silk, Cotton, Linen, or Woollen.

Spirits of turpentine twelve drops, and the ſame quantity of ſpirits of wine; grind theſe two with an ounce of pipe-maker's clay, and rub the ſpots therewith: You are to wet the compoſition, when you rub either ſilk, linen, or woollen with it, let it remain till dry; then rub it off, and the ſpot or ſpots will diſappear. The ingenious Dr. Godfrey, ſays that true ſpirits of ſalt is the only thing to remove iron-moulds from linen, and ſal armoniac, with time, takes out the ſtains of wine.

Chinese method of mending China.

Boil a piece of white flint glaſs in river water five or ſix minutes; beat it to fine powder, and grind it well with the white of an egg, and it joins China

(without

(without riveting) so that no art can break it again in the same place. You are to observe, the composition is to be ground extremely Fine, on a painter's stone. This by the royal academy of sciences; their last prize secret.

The most excellent method of fining or restoring malt liquors.

First put a piece of lime (about two pounds) into a hoghead of either ale or beer, and the like quantity of good chalk, then toast a thick lump of wheaten bread (a pound at least) very hard, put it into your cask, when cold, to the other ingredients, and your drink will be exceeding fine in two or three days. Note, if four, it will restore it to its first perfection. But, to prevent malt liquor being either foul, or sour, see that your casks are very dry, and sweet before you fill them; and to every thirty gallons of liquor put one pound of chalk, the like quantity of unslack'd lime, and about a pound of wheaten bread, burnt hard; put all these (whole) into your cask, and your liquor will be secure, and exceeding fine, tho' the weather be ever so changeable.

To clean ribbons, &c.

Ribbons are to be first clean wash'd, then boiled in soft water and bran for a quarter of an hour; afterwards wash them in soap suds, wherein a few drops of spirits of wine has been put; when clean, rinse them, and dry them in the shade; iron them with a moderate hot heater, and they will look very beautiful. Scarlet cloaks are done the same way, only hot pressing does better than ironing.

A sure and speedy cure for the scurvy.

Drink plentifully of whey, with juice of elder-flowers in it, and a cure will soon be completed.

Excellent true british Ketchup

Take green walnuts, beat them in a marble mortar,

tar, and strain out the juice, let it stand twelve hours, then take a quart of the juice that's fine, six British herrings, and a little of the herring-pickle, cut the herrings small, and put them in a pan, and add to them a little mace, about 20 cloves, and half an ounce of Jamaica pepper; boil all together on a slow fire, for half an hour, then strain it thro' a cloth, put it again into the pan, and add to it twenty or thirty shellots, and half a pint of vinegar, let it boil till the shellots be tender, then put it in a bason to cool, and when cold, let it run thro' a close cloth of its own accord, and it will take off all the scum and fat; bottle it for use. If green walnuts are not to be had, make use of a pint of walnut pickle; but in this case the vinegar is to be omitted.

French way of washing fine lace, or linen.

Take a gallon of furz-blossoms, and burn them to ashes; then boil them in six quarts of soft water; this, when fine, you are to use in washing, with your suds, as occasion requires, and you will have the linen, &c. not only exceeding white, but it is done with half the soap, and little trouble. This is verbatim from the Paris magazine.

How to recover black cloth that is faded.

Take fig-tree leaves. boil them well in water, wash your cloth in it, milk-warm, dry it in the sun, and it will prove an excellent black.

How to make brass of a true gold colour.

Take sal-armoniac, mingle it in a mortar, with spittle, till it becomes like a liquid ointment; rub the brass with it, put it on hot coals, and when dry'd, rub it well with a linen cloth, and it will be of a beautiful golden colour.

How to give gilded work a fine colour.

Take clean salt and brimstone, boil them together, with a little water, in an egg shell, after taking away the inside film; take care you do not give it

too much fire to burn the shell ; you are to rub this liquid over your gilding, and you will be well pleased with its effect.

To stain pair-tree picture Frames a good black.

Boil chip log-wood in clear water, and rub the frame three or four times over with it when hot ; scour it when dry with sand paper ; then give it two washes with tincture of steel. Lastly, clean it with a linen cloth and bees wax, and it will be a beautiful black.

To soften ivory or bone.

Lay it for twelve hours in aqua fortis, then three days in the juice of beets, and it will become tender, and you may work it into what form you please. To harden it again, lay it in strong vinegar.

To make amber varnish.

Take a pound of powder'd amber, melt it in an unglaz'd vessel over a charcoal fire, and pour it, whilst fluid, upon an iron plate ; then powder it again when concreted, and afterwards dissolve it entirely in an unglaz'd vessel of earth, adding first to it linseed oil prepared and boiled with letharge, and afterwards spirits of turpentine. With this incrust your vessels of wood, or metals, and afterwards polish them, being first carefully and artfully dried.

Birdlime ; its preparation and use.

It is a viscid substance, prepared various ways, and from various materials ; and is used in catching birds, mice, and other vermin : That commonly used is made from holly-bark, boil'd ten or twelve hours ; when, the green coat being seperated from the other, it is cover'd up a fortnight in a moist place, and then pounded into a tough paste, that no fibres of the wood is left, and washed in a running stream till no motes appear ; then put it to ferment four or five days, and skim it as often as any thing arises. It may be then laid up for use ; in using it,

a third

a third part of nut oil, or any thin greafe, is incorporated with it over the fire.

The useful, new invented black-lead pencil; from the Paris Ala main.

Take what quantity you think proper of red-lead, melt the metal from it, and then bury the lead in fresh horse dung for 12 days. It may afterwards be made for use. This is sign'd F. Reay.

Red hair chang'd to a beautiful brown.

Black lead, and black-ebony shavings, one ounce each; let these boil an hour in a pint of clear water; when fine, bottle it for use. You are to wet a comb in the liquid, and comb your hair often therewith. To make the hair black, add two drahms of camphire to the ingredients. This is the liquid for changing hair, advertis'd at half a guinea a bottle.

How to colour an old Gold Chain, so as to look like new.

Take urine, dissolve therein sal-armoniac, boil the chain in this liquid. and it will look extremely beautiful.

How to brighten Spots in Gilding.

Take allum, boil it in clean water, put your work into it, and it will restore the colour again, and remove the spots.

A Wood Glue, which stands Water.

You are to mix up common glue with linseed oil, or varnish, and apply it to the places to be glued together, after they have been warm'd, and, when thorough dry, water will do no damage to your work.

Another excellent glue.

Take isinglass and common glue, soak them over night in strong brandy; then dissolve them over a coal fire, and add thereto a small quantity of chalk in fine powder.

Another very useful glue.

Take sal-armoniac, sandarac and gum-lacca, soak and dissolve them in strong brandy, over a gentle heat,

heat, and put to them a little turpentine; when all is dissolved, then pour the solution over iisinglass and common glue, and in a close vessel, dissolve it over a slow fire; add to it a little glass-dust and when you have brought it to a proper temper, it is fit for use.

A good water cement.

Take one part of Minium, or Red Lead, and two parts of Lime; mix them well together with the whites of two Eggs.

Stone glue, wherewith you may either glue stone or glass.

Take white flint-stone powder, which is dry and finely seared; then take white rosin, melt it in an iron or earthen pipkin, stir the powder in it, till it is like a thick paste, warm the glass, or what you design to glue together; afterwards gild the places, or joinings, and it will add a great beauty.

How to clean alabaſter or white marble.

Beat pumice-stones to an impalpable powder, and mix it up with verjuice; let it stand thus for two hours; then dip it in a sponge, and rub the marble, or alabaſter therewith; wash it with a linen cloth and fresh water, and dry it with linen rags.

How to prepare moulds.

Take fine goldsmith's sand, mix it with lamp black, and temper with linseed oil; the sand should be very dry.

Another way to prepare moulds.

Prepar'd clay, plaister of paris half the quantity, the like of white starch; mix with whites of eggs and gum-arabic in a paste.

Choice varnish, which cannot be hurt by wet.

Take gum capal, beat it fine, put it into a glass, and pour off high rectify'd spirits of wine over it four inches; close the glass with a bladder, set it 24 hours in an oven to dissolve the gum, and put in baln. mar. till the spirits and gum are incorporated.

Fine

Fine Indian varnish.

Take high rectify'd spirits and gum-lacca dissolv'd in a vial in sand-heat; tie a bladder over the vial, and if it bubbles, prick the bladder to give it vent: The spirits should be four inches above the gum.

To japan gold, glass, or any other metallic spangles.

Lay on your work with lack-varnish; then grind cologn earth and gambooge with the same; this varnish must be white and clear; with that colour lay your work once or twice over; let it dry, then varnish it over; and sift on the gold-dust, &c. you intend to use. — Give several lays of varnish; polish with Dutch rushes; next with tripoli and sweet oil; and you may attempt a varnish after for beauty.

To prepare a blue colour from verdigrease.

Take sal armoniac and verdigrease, equal quantities; mix well with water of tartar, into a paste, put this into a vial, which should be stopped close; let it stand several days and you will have a fine blue colour.

To make Venice sky blue.

Quick-lime one pound; mix and work it with sharp white wine vinegar into dough; let it stand for half an hour, and when hard, pour more vinegar to it, in order to make it soft, when done add two ounces of pulveriz'd fine Indigo, mixt first well together; then set it into a glass vessel 20 days under horse-dung; after which time, view the colour, and, if not to your liking, continue it longer under the horse dung.

How to make Indian ink.

Take black horse-beans, and burn them to a powder; then mix them up with gum-arabic water, and bring them to a mass, which press in a mould, made for that purpose, and let it dry.

An excellent water for taking out spots in cloth, stuff, &c.

Spring water a quart, put into it a little pot-ashes, about

about the quantity of a walnut, and a lemon cut in small pieces; mix this well together, and let it stand 24 hours in the sun; then strain it thro' a cloth, and bottle the clear liquid up for use. — It takes out all sorts of spots in any kind of thing; wash the place where the spot was (after being taken out) with fair water. This liquid is preferable to the balls for taking out spots, inserted in this book.

Colours of general Use in Painting.

For white, use white lead, flake-white, mussel silver. — For blue, indigo, blue-lake, blue verditer, smalt, ultra-marine, latmus, blue. — For red, vermillion, red oaker, lake, carmine. — For green, sap green, verdigrease, terra-verde. — For yellow, yellow oaker, masticot, dutch-pink, gambooge, naples-yellow, shell-gold. — For brown, brown-oaker, chimney-foot of wood-fire, cologn earth, umber. — For black, lamp-black, ivory black, sea-coal black, indian-ink.

Dying in general: First, Carnation colour for either silk or worsted.

Take to each pound of silk, ribbons, &c. four handfuls of wheaten bran, put it into two pails of water, boil it, put it into a tub, and let it stand all night; then take half the quantity of that water, put into it half a pound of allum, a quarter of a pound of red tartar (in fine powder) and half an ounce of fine powder'd Circumi; boil them together, and stir them together with a stick; after boiling a quarter of an hour, take the kettle of the fire, put in the silk, and cover the kettle close to prevent the steam from flying out; leave it thus for three hours, then rinse your silk in cold water; beat and ring it on a wooden-pin, and hang it up to dry. Then take a quarter of a pound of gall-nuts, beat them fine, and put the powder thereof into a pail of river water; boil it for an hour, then take off the kettle, and when you can bear

bear your hand therein, put in your silk, and let it lay therein an hour; then hang it up to dry. When dry, if you would proceed to a crimson colour, weigh to each pound of silk three quarters of an ounce of cochineal, which beat to a fine powder, and sift it thro' a fine hair sieve, then put it in the pail, with the remaining lee, and having mix'd it well, pour it into a kettle, and when it boils, cover it well to prevent any dust coming to it; add three ounces of tartar, in fine powder; let it boil for a quarter of an hour; then take it off the fire, let it cool a little, and put in the silk, stirring it round to prevent its being clouded. It is to be wring'd and beat with a stick, and then rinsed in hot lee of Newcastle soap.

To die a violet colour.

Boil your silk in bran and allum, as before directed, put clean water in your copper, and to every pound of silk, put one pound of galls, and one ounce and a half of cochineal finely powder'd, and one ounce of gum-arabic; boil it together, like the crimson red; leave it all night, and next morning take out your silk and rince it in fair water.

To dye linen, or yarn, of a lasting violet colour.

• Take one pound of tartar, half a pound of allum, two ounces of fernambuca, and half an ounce of salt petre; boil them together; then let them cool a little, and put in your yarn; let it soak for four hours, keeping the dye hot, but not boiling, then rince and dry it.

To dye linen black

Take filings of iron, wash them, and add to them the bark of elder-tree; boil them up together, and dip your linen therein.

Black for woollen

Take an ounce and a half of sal-armoniac, with this boil your stuff gently for an hour, turning it all the while; then take it out, and let it cool. Or,—

Take

Take one pound and a half of vitriol, and a quarter of a pound of sumach; boil your stuff therein for an hour; cool and rince it, and it will be a good black.

A fine carnation colour.

Take an ounce of tartar, starch and lemon-juice of each half an ounce, and cream of tartar a quarter of an ounce; boil them together in fair water, adding a quarter of an ounce of curcumi; put in half an ounce of cochineal, and a little after, one ounce of aqua-fortis, in which you have dissolved a quarter of an ounce of pewter, and then put in your silk.

To dye silk a straw colour.

Put into a clean copper to each pound of silk, two pounds of fustic, let it boil for an hour, then put in six ounces of gall, let it boil together half an hour longer, the silk being allum'd and rinc'd, is turn'd about in this colour; then take it from the kettle, and wring it out; dip it in pot ash lee, and wring it out again; then put it into the copper, let it soak a whole night, and in the morning rince, beat it out, and hang it to dry.

Fine orange colour.

Soak the white silk in allum-water; then take two ounces of Orleans yellow, put it over night in water, together with one ounce of pot-ashes; boil it up, add to it, after boiling half an hour, one ounce of powder curcumi, stir it with a stick, after a little while, put your allum'd silk into it for two or three hours, according to what height you would have your colour; then rince it out in clean soap suds, till it looks clear, and afterwards clear it in fair water.

To dye a gold colour.

Having first dy'd your silk yellow, then take to each pound one ounce of fiset-wood, or yellow chips, and of pot-ashes the quantity of a bean; boil this for half an hour, then put in your silk, and turn it, till it is to your liking.

To set a blue vat.

Take half a bushel of clean beech-ashes, well sifted, of this make a lee with three pails of river, or rain-water; pour it into a tub, and put in two handfuls of wheaten bran, two ounces of madder, the like quantity of white tartar, finely powder'd, one pound of pot-ashes, and half a pound of indigo powder'd; stir it well together, once every twelve hours for 14 days following, till the liquid appears green on your fingers, and then it is fit to dye: however, when ready, stir it every morning, and cover it when you have done. When you are going to dye silk, first wash the silk in a fresh warm lee, wring it out, dip it in the vat; you may dye it what shade you please, by holding it longer or shorter. When the colour is to your mind, wring the silk, and having another tub ready at hand with clear lee, rinse therein your silk, then wash and beat it in fair water, and hang it to dry. When the vat is wasted, fill it with lee; but if it grows too weak, supply it with half a pound of pot-ashes, the like quantity of madder, a handful of bran, and half a handful of white tartar; let it stand eight days, stirring it every twelve hours, and work it again.

The valuable FIRE-BALL; manner of making it, and its great use in families.

Procure a ton of soft, mellow clay, that will work well, and is free from stones; to this clay is to be sifted three or four bushels of small sea-coal, and this is to be well mixed with the clay, in the manner the labourer works his mortar. Having thus done, it may be made up in such siz'd lumps that will best suit your fire-grate; I have commonly seen them, in countries where they are acquainted with their use, about three or four inches square; though they may be made either large or small, according to the quantity of fire you stand in need of: When made up into lumps,

lumps, it wou'd be necessary to lay them in a shed, barn, or out-house, to dry for use, as they burn much better than newly made and wet; but in case you are oblig'd to use them immediately, it is very proper to lay a few of these balls either behind (or near) the fire, where they get dry very soon. When your fire burns clear, place three or four. or more, of these balls in the front of your fire, as you do large coals, and you'll soon find the benefit you receive from them; for they not only burn exceeding clear, without the least smoke, but give a far better heat than the best coals you can get. The charge of the load of clay will not exceed 3s. the labourer, for making up, about 1s 6d. coals work'd in the clay (supposing them at 12d a bushel) 5s. It appears that the whole charge of making up the ton of clay, with the coals, does not exceed 10s. tho' the balls are preferable to, and will do more service than a chaldron of the best sea coals. Those who incline to make use of this cheap way of keeping a good and wholesome fire, are to take notice, that the balls are not to be laid on till the fire burns clear and well; and then they will give great satisfaction. This is choice fuel to burn in chimneys inclinable to smoak.

To freeze water, and melt snow at the same time.

Put an ounce of salt into an earthen pint pot (to some snow) on a wet table, or board; stir them together till the snow is dissolved, (observing not to shake the pot) and, as the snow dissolves, the pot will freeze to the table.



On B E E S.

New discoveries on Bees, of keeping them in health and vigour, and of increasing them.

THE following observations are fruits of 25 years diligent labour and attention, and I flatter myself, that some of them will be found new and interesting. When the trees begin to bloom, and the flowers to display their sweets, the diligent bee usually commences its forages on every tree and flower which yields a proper aliment. Then take an old hive with remains of the comb on the sides, or if it has none, place some shreds of wax towards the roof of the hive in several places, and hold them a while over lighted straw, that they may melt and spread about; you will find the bees to work in such a hive preferable to another, and they will immediately build upon this ground of wax which you have laid, that which they have gathered. Observe, that when there is a great deal of wax, they lay it on towards the centre, and when a little, on the sides; they build their comb perpendicularly from the roof to the floor, which the heat increasing towards the bottom of the hive, renders their wax quite soft.—They will not only make their symmetrical cells with the wax of their own gathering, but also with that which has been supplied to them; this I know by frequent experience, having laid a piece of wax in the hive, and soon after nothing of it was to be seen. How much wax a bee can carry at once may be seen, especially in the first week's work of a new swarm appointed to form the comb; in which they are so diligent, that they often drop somewhat of what they are bringing before they have secured it; and the particles they thus drop are not unlike that kind of dust which comes from
are

bird feathers, except that they are whiter and more glossy. The young swarms don't work at the comb above a fortnight, and if in the interim foul weather should hinder their forages, they spare neither their works nor their honey, but in a course of fine weather, they run up their building with a surprising celerity. In our northern climates four months is all the space that they work at their honey, which is made at their hives, whether it be little or much; but in hot countries they have nine working months. In the months of February and March they may indeed gather from the nut-trees and other shrubs, wherewith to make their comb; and if they should meet with any blossom, any drop of honey on the gooseberry and currant bushes, they either use it themselves, or give it to their young, which yet is far short of being a sufficient nourishment, but in the months of April or May, when the trees are in blossom, they then find all the necessary materials both for their structures and honey; the months of June and July are the most favourable; the wild and garden flowers, trefoil, oats, barley, peas, vetches, and cockle, from which they draw their best honey and nutriment, opening all their treasures to them: In those years when cockle and trefoil are scarce, no swarm is produced, but with a plenty of these two herbs, there never wants a plenty of honey, and numerous swarms. Bees extract their honey from all sweet-smelling flowers, as roses, pinks, violets, orange and lemon flowers, and all others within their reach; in red trefoils they are prevented by the cranes, who chiefly furnish themselves with honey from thence; but they make themselves amends by scouring the country, where to any other flowers they prefer the tops of turnips and radishes, cabbage, and colliflowers, &c. and when all these fail them, they fall upon the branches and flowers of pumpkins

where they disguise themselves so as to lose the appearance of bees. — Bees are known to nourish themselves with the juice of flowers, which being convey'd into their little bladders, is disposited in their cells, and closely cover'd with quite another substance, as their autumn and winter store. I have observ'd them to be very fond of farinous dew, which falls after the sun is above the horizon, and is sometimes perceived to sparkle on oak and plumb tree leaves; and one of these leaves being put to the tongue, one tastes liquor as sweet as honey; and this liquor it is which, ripening in the cells, becomes honey: If a bee at its return be taken and opened, in its bladder will be found a sweet juice, almost as liquid as water; for did bees sip common water, how would they refresh themselves in winter, when confined within doors? The best weather for bees is when it is hot and calm, with copious dews; too much drught exhausts the flowers, and too much wet hinders the bees from their excursions, from making swarms, and besides fills the flowers with water; in a warm spring they ravage the buds of hazzles and poplars, not that what they thus gather, and bring home about their hinder legs, serves them for food, but they use it for hatching their young. A great deal of this is found in summer-time in the hives; but if the hives be opened, and cleared in autumn or winter, or as is our custom, in spring, little or none is found; it is bitter, so that it cannot be any aliment to the bees, accordingly it is left un'ouch'd in the cells unless in extremities; however, it is so conducing to their increase, that if they have plenty of it, a forward and numerous swarm may be depended on. Broom is so great a dainty among bees, that they spare no pains in traversing woods and heaths in quest of it — The chief cause of wars among bees, as among men, besides their natural avidity, is injustice

and

and violence; thus when they observe that it is hot weather, and that their forages do not answer, they cruize about for hives at a distance from their own, seldom assaulting any in the neighbourhood. They are also wise enough not to meddle with any that are strongly garrison'd, but where they apprehend a weakness, they then attempt to force an entrance; if repulsed, they fly away for a reinforcement, that is, they retreat and return in great numbers to their attacks, which are so vigorous, and their hive so strongly defended, that the entrance of the hive is covered with the slain. It is observable, that if the queen, either of the besieger, or besieged, falls in the action, the war is immediately at an end, the field of battle is given up to the enemies, a division of their stores is made with them, and the bees of the hive either quit their antient habitation, or a coalition is made betwixt both parties, to be but one people under the same government. As some prevention of the devastation of these wars, the hive must be opened after their return from the battle, and the remainder of the honey taken out, that it may not be pillaged by the enemy. Another cause of these wars is, when a hive has been carried by the enemies, the bees upon their expulsion, attacking other hives for a settlement; for they never unite with their enemies, unless upon the loss of their queen, while she remains they adhere to her, and never submit to a foreign yoke. Three years successively my hive had been attacked by new swarms, as emigrants, some have perished in the enterprize, and others have been admitted to the community. I remember one day going to look upon my hives, I found some of them besieged by a prodigious number of bees, with a great humming in the air; I concluded that these were invaders, and the rather as my hives had been cleared but a little before, and my bees conse-

quently could not have produced new swarms. — I left them to fight it out, not returning till towards night, thinking by that time victory had declared itself on one side or other, and accordingly I heard no humming, but at the entrance of one hive, which I lifted up to examine into the state of affairs, then I plainly saw that a swarm had settled itself among my bees, for the hive was so filled, that there was no room to put one finger in; they live together in harmony, uniting forces to build the comb, and in Whitsun holidays produced a new swarm.



SINGING BIRDS.

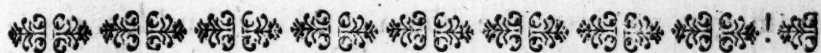
The way to bring them to a great perfection, by that famous German, Lewis de Burgh.

THE 'R E is neither lark, linnet, bull-finch, nor gold-finch, says this famous foreign bird-fancier, but what is to be brought to as great a perfection in song as the canary bird: tho' the English will not take the pains a German does; they love to sleep while the German is tuning his pipe, and instructing the feather'd songster. There is more to be done with the lark from two or three o'clock, than can be done in many months in the day time, or when the least noise, or sound, is to be heard but from the instructor: every thing should be quiet but the master; as it is with the human kind, so it is with the feather'd; a good master often makes a good scholar; and a good tutor seldom fails of making

ing a good bird. I say, begin with your birds when all is quiet ; they will then take much more notice of what you endeavour to teach them. The age, for beginning to instruct, should not exceed three months, I sometimes begin sooner, and seldom stay less than an hour with each bird. I sometimes use my pipe, sometimes whistle, sometimes sing, but which soever I use most, I seldom fail of bringing up birds to please to a great degree ; insomuch that I have often sold a lark for two guineas, a linnet for one guinea, a bull-finch, when it could pipe finely, from five to ten guineas ; and a gold-finch from one to two guineas. In short, the whole of bringing up a bird to sing well, depends intirely on visiting him early, and furnishing him (the last thing before you leave him) with what he is to eat for the day. Water he should never want in his fountain, nor small gravel at the bottom of the cage ; but short allowance in eating is absolutely necessary to make him a good songster ; when I come to him in the morning, he is glad to see me, (supposing him hungry, says the German) he will soon begin to talk to me, and bid me welcome. At my approaching my bird, I very often give him three or four grains of rice that have been steep'd in Canary ; I sometimes add a little saffron or cochineal to the liquid, according as I find my bird in health ; and I seldom fail of being rewarded with a song for my pains. In the general way of feeding the lark, I give a small quantity of bruised rice with egg and bread, and now and then a few hemp-seeds, and that bread is far the best for them that is prepar'd after the manner of the cock bread, to which I refer you. The smaller birds I feed with rape-feed, and very little canary. it being apt to make them grow very fat and dull : I give these likewise, at times, a few grains of bruised rice,

it doing them abundance of service, and most assuredly prevents their falling into a scowering, which is the death of many a fine bird : Those birds that are accustom'd to this way of feeding, seldom are troubled with what is call'd the pip, shed their feathers with far more ease than other birds, are in general much prone to singing, and have a more agreeable note than birds that have not been train'd up after this manner. The reader is to observe, that when I order grains of bruised rice to be given, I always expect that the rice has been first soak'd in canary, and afterwards dry'd carefully for use, tho' giving a bird now and then a few grains, while they are moist with this excellent liquor, does mighty well ; but it is not to be constantly practised : The rice is only to be grossly bruised, so as to make it tender, and consequently easier to be eaten by the bird. I have observed many people in England, give birds loaf-sugar, but it is a great fault : I advise, in its place, either a small lump of salt, or now and then, a drop or two of spirits of nitre in their water. If you proceed, says the author, according to these directions, you'll find your birds will equal those of the Germans, or any other nation. — This is translated from a favourite tract in the German language, bearing the name of *Lewis de Burgh* ; and is held in great esteem by the English as well as foreigners.

CHIMNEYS.



C H I M N E Y S.

Their best Form and Situation ; and sure Method to prevent Smoaking.

THE parts of a chimney are the jambs or sides, the back or hood, the mantle resting on the jambs, the tube or funnel which conveys away the smoke, the chimney piece or moulding, on the foreside of the jambs on the mantle-tree, and the hearth or fire-place. — Palladio gives directions for forming a Chamber-Chimney after this manner : Breadth on the inside, 5 1 Half, 6 or 7 Foot, Height to the mantle tree, 4, or 4 1 Half; depth, 2, or 2 1 half foot.

And, according to Wolfius, the breadth of the aperture, at bottom to be to the height, as three to two, to the depth, as four to two, In small apartments, the breadth is three foot, in larger five, in bed-chambers four, in small banqueting rooms five 1 half, in large six : But the height never to exceed two 1 half, lest there be too much room for the air and wind, whereby the smoke be driven down into the room. Nor must the height be too little, lest the smoke miss its way, and be check'd at first setting out. The same author advises to have an aperture, thro' which the external air may, on occasion, be let into the flame, to drive up the smoke ; which the internal air would otherwise be unable to do. The mouth of the tube, or that part joined to the chimney-back, *Felibien* orders to be a little narrower than the rest (and he is joined herein by *Palladio*, and other great masters in the art of building)

that

that the smoke coming to be repelled downwards, and meeting with this obstacle, may be prevented from getting into the room. Many builders make the funnel twisted, to prevent the smoke's descending too easily: But the surer expedient is to make the funnel narrower at bottom than at top; the fire impelling it upward more easily when contracted at bottom; and in mounting, it finds more space to disengage itself, and therefore is not so apt to return into the chamber. M. *Lucar* advises two holes, or two pipes, one over the other, to be left on each side the chimney; one sloping upwards, the other downwards, and thro' one of these, says he, the smoak can't fail of passing in any position. He goes on in giving a great number of instances of chimneys built in this manner, and absolutely affirms, that they were all capable of discharging more than four times the smoke that could possibly be produc'd in any one chimney. *De l'Orme* orders a brass ball full of water, with one small aperture, to be hung up in the chimney, a little above the height of the greatest flame: Here, as the water grows hot, it will rarefy, and drive thro' the aperture in a vapoury stream, which will drive up the smoke that would otherwise linger in the funnel.—In short, smoaking chimneys have prov'd so extremely troublesome, that it has long employ'd several eminent men, of our own and other nations, to find out a remedy for this great evil; for the cure of which we are greatly oblig'd to the late ingenious Dr. *Disaguliers*. He says, that the engine invented by Mon. *Delasme*, consumes the smoke of all sorts of wood, and that so totally, as the most curious eye cannot discover it in the room, nor the nicest nose smell it, tho' the Fire be made in the middle of the room. This engine consists of several iron hoops, four or five inches diameter, which

which shut into one another; and this is placed on a trevet. Monsieur *Dalesme* affirms, it will immediately disperse the smoke and smell from the most foetid things, as a coal steep'd in cat's piss, &c. which stinks abominably when taken out of the Fire. And Dr. Disaguliers so greatly approv'd of this engine, that he, in some cases, gave it the preference to the machine of his own invention; which was to fix one or two trunks in the chimney (a little above the part the flame commonly ascends to) according to the size of the chimney, and quantity of fire consum'd therein. These Trunks are to be cut at the part next the Fire, in the manner of the end of a flute, the performer puts to his mouth when he is playing. It is, in small Fire places, to be left open at the end, about an inch, and in large ones two inches, and should have a bolt or slider, to slip backwards or forwards, as occasion requires.

For instance; in case the Fire is clear, the bolt or bolts, may be both clos'd; because, were they open at this time, it would be a means of causing a larger Fire than might be required, occasion'd by the extraordinary draught, but where the Fire is dull and smoaky, the bolt may be opened more or less to discharge the smoke that otherwise might become troublesome, and this it will do let the quantity be ever so great, or the quality ever so disagreeable. There have been a multitude of experiments to prove the efficacy of these kind of Trunks: Supposing a room to be filled with smoke (by making a hole in the wall) in such case, the smoke would be drawn off in less than a minute's time. But it must be observed, that the trunk should be at least a yard and a half long, about four inches square inside, and the slit, or mouth, in the room, full two inches wide.

For

For preserving from rust.

Take an eel, fry it, press out the oil, and rub your furniture (in metal) therewith.

To make an excellent blacking-ball for shoes.

Mutton suet four ounces; bees-wax one ounce; sugar-candy and gum-arabic, one drachm each, in fine powder; melt these well over a gentle fire, and add thereto about a tea spoonful of turpentine, and ivory, or lamp-black; sufficient to give it a good black——While hot enough to run you may make it into a ball, by pouring the liquid into a tin mould; or let it stand till almost cold, and you may mould it into what form you please by the hand —— Many people make use of hard soap as a chief ingredient in making blacking-balls, without considering that the salts all soaps abound with, are very destructive to Leather in general.

De Burgh's Blacking-Ball, that will keep out wet several days.

Mutton-suet four ounces; bees-wax two ounces; Turpentine one drachm; white rosin a quarter of an ounce; pure cream a large spoonful: These are all to be well incorporated together in a glaz'd vessel over a slow Fire, and then add thereto half a drachm of Turpentine varnish: This is to be brought to a good black, by lamp-black only, it preventing this ball from growing hard and dry far better than ivory-black——It may now be work'd by hand (whilst warm) into what form you like best —— Boots or shoes should first be well clean'd, and then the ball to be us'd with a soft brush, near the Fire, or over a steam from hot water, otherwise it will be found too stiff for the purpose. This is the famous ball that is in great esteem by the nobility for cleaning coaches, chariots, &c. And *De Burgh* assures us, that if the soles of shoes or boots be well rubb'd over with this mixture, while it is in liquid, such shoes or boots will

MISCELLANEOUS ARTICLES.

will wear more than double the time they would without being so managed.——He directs, that the soals shou'd be first well clean'd from dirt, and afterwards, hung up near the Fire, that the mixture may the better penetrate the Leather.

A liquid blacking.

Is made of the grounds of ale, colour'd with lamp black: This looks beautiful, and dries soon; but is as prejudicial to the leather as the ball where soap is an ingredient.

Useful prognosticks of the weather, (far more certain than the best weather-glass, or shepherd of Banbury's observation) by Lord Bacon, the learned Dr. S. Clarke, Mr. Derham, &c.

We do not here mean to obtrude the idle, arbitrary observations of whimsical people upon our reader: That cloud of popular predictions for the brute world, which partly the sagacity, and partly the credulity of our countrymen have establish'd, we set aside, as not flowing from any natural, necessary relations, that we know of, in the things themselves. —— First, then, a thick, dark sky, lasting for some time without either sun, or rain, always becomes first fair, then foul; *i. e.* changes to a fair, clear sky, ere it turn to rain. This, the Rev. Mr. *Clarke*, who kept an exact register of the weather for 30 years, since put into Mr. *Derham's* hands by his grandson, the learned Dr. *S. Clarke*; this, he says, he scarce ever knew to fail; at least, when the wind was in any of the easterly points; but Mr. *Derham* has observed the rule to hold good, be the wind where it will; and the cause is obvious: The atmosphere is replete
with

with vapours, which, tho' sufficient to reflect, and intercept the sun's rays from us, yet want density to descend, and while the vapours continue in the same state, the weather will do so too. Accordingly, such weather is generally attended with moderate warmth, and with little or no wind to disturb the vapours, and an heavy atmosphere to sustain them; the baromet r being commonly high. But when the cold approaches, and by condensing, drives the vapour into clouds, or drops, then way is made for the sun-beams: till the same vapours, being by further condensation form'd into rain, fall down into drops.

— 2. A change in the warmth of the weather, is generally follow'd by a change in the wind. Thus, the northerly and southerly winds, commonly esteem'd the causes of cold and warm weather, are really the effects of the cold or warmth of the atmosphere; of which Mr. *Derham* assures us, he had so many confirmations, that he makes no doubt of it. Thus it is common to see a warm southerly wind suddenly changed to the north, by the fall of snow or hail; or to see the wind, in a cold frosty morning, north; when the sun has well warm'd the earth and air, wheel towards the south, and again turn northerly or easterly in the cold evening. — 3. Most vegetables expand their flowers and down in shiny weather, and towards the evening, and against rain, close them again, especially at the beginning of the flowering, when the seeds are tender and sensible. This is visible enough in the down of Dandelion, and other downs; and eminently in the flowers of Pimpernel; the opening and shutting of which, *Gerard* observes, are the countryman's *weatherglass*, whereby he foretels the weather of the following day: The rule is, if the flowers be close shut up, it betokens rain and foul weather; if spread abroad, the contrary.

The

The stalk of trefoil, my Lord *Bacon* observes, swells against rain, and grows more upright: And the like may be observed, tho' not so sensibly, in the stalks of most other plants. He adds that in the stubble-fields there is found a small red flower, call'd by most country people *wincopipe*; which opening in a morning is a sure indication of a fair day. That vegetables should be affected by the same causes that affect the weather, is very conceivable, if we consider them as so many Hygrometers, Thermometers, consisting of an infinite number of trachæ, or air-vessels, by which they have an immediate communication with the air, and partake of its moisture, heat, &c. These Trachæ are very visible in the leaf of the scabiose, vine, &c.

A certain method of preventing the teeth from being uneven or bad by Sig. Curzoni operator for the teeth and gums.

When the child is going to shed the first teeth, take care to have them displac'd as soon as they become loose, or they will prevent the new teeth from growing up regularly. If this should not have the desired effect, and that they are uneven both above and below, have two circular plates of silver, in the shape and according to the dimensions of the gums, with holes drill'd thro' according to the number of teeth; put these to the gums, and with a thread of strong silk tie those teeth which stand in as tight as the child can bear, without much pain; let the child wear this for three or four days, then take it off, and clean the teeth and gums with a wash made of one drachm of spirits of salt mix'd with half an ounce of water; then tie them again, by which means

means the teeth that stand in will be drawn forward, and if any stand out, they will be pushed up even; till the gums, by the use of the above tincture, will grow up and fix them. This being done, and the teeth in both jaws brought to fall directly on each other, if you observe any tooth stand up higher than the rest, take it down till it is even, with a small File; and having thus brought them into a regular state, they will continue to wear even: No other care will afterwards be requir'd, but to clean them occasionally with the tincture, which is greatly superior to any of the quack medicines so much boasted of.

To make Brillau's incomparable liquid for the hair.

Take hartshorn in shavings one ounce; scrapings of lead two ounces, camphire a drachm, lecharge of gold, a quarter of an ounce, boil all these for half an hour in a pint of soft water; when cold and fine, pour the liquid off, add one drachm of sugar of lead, and the like quantity of flowers of rosemary; then let it boil up, and pour it off, when fine, it is fit for use.

** * * The whole charge of this preparation does not exceed three pence, altho' the proprietor sold it for half a guinea the quarter pint bottle, and not only acquir'd a large fortune, but a great character by it, as it is the best thing in the world for curling the hair, and most assuredly brings that which is sandy, to an agreeable colour.*

Extraordinary

Extraordinary Method of breeding GAME COCKS ; the manner of dieting and ordering them for Battle ; sure way of matching them : With a choice and valuable Secret for feeding a Cock four Days before fighting, by which very extraordinary way of feeding, upwards of 90 Battles have been won out of a hundred.

Their shape, colour, courage, &c. accurately described.

THEIR shape should neither be large nor small, but of a middling size ; when too small, weakness may justly be suspected : and on the other hand the large cock is generally speaking very unactive, and often hard to match : It is for this reason, I always prefer a cock of a middle size ; he frequently proves both strong and nimble, which are both valuable articles.

His Head——Should be small.

His Eyes ——Large and quick.

His Back—Strong, crook'd, and big at setting on.
Colour.

Should be suitable to the plume of his feathers, whether black, yellow, reddish, &c.

Bram of his Leg.

Very strong, and agreeable to his plume, blue, grey, or yellow.

Spurs

Spurs.

Rough, long and sharp, a little bending, and turning inwards.

Signs.

If a cock's neck be invested with a scarlet complexion, he is strong, lusty, and couragious ; but on the contrary, if pale and wan, it denotes the cock to be weak, and defective in health. If his colour be either grey, yellow, black, or red, with a black breast, it is well ; not but there are other colour'd piles that prove extremely good, which you may find out by practice and observation ; but those mentioned, long experience has prov'd to be the best. The py'd pile may pass indifferently ; but the white and dun are rarely found good. A cock's courage may be known by his upright standing, stately tread in walking and frequent crowing, while in the pens ; these says Markham, are sure signs of a true breed. He adds, that a good cock should be strong shap'd ; of good colour ; of true valour ; with heel sharp and ready. His sharpness of heel is known by frequent observation in fighting ; when upon every rising he so hits, as to extract blood from his opponent, gilding his spurs continually, and every blow threatening immediate death to his adversary. A sharp heel'd cock, tho' he be somewhat false, is better than a true cock with a dull heel, and the reason is this, the one fights long, but seldom wounds ; the other carries a heel so fatal, that every moment produces expectation of the battle's conclusion ; and tho' he is not so hardy as to endure the utmost hewing, so commonly there is little occasion for it, being a quick dispatcher of his business : should your cock prove both hardy and narrow heel'd he is then the best cock you can make choice of.

The proper hen for a true breed.

The hen should be either black, brown, speck'd, grey,

grey, grissel or yellowish ; if tufted on the crown, the better, and if she has the addition of weapons, it adds much to her excellency. Her body should be large and well poken behind for the production of large eggs. Observe how she behaves herself to her chickens, whether friendly or frowardly, and take special notice of her carriage and deportment among other hens, if she receive abuses from them without revenge, or shew any thing of cowardice, value her not, for you may assure yourself her chickens will prove very indifferent. A right hen of the game, from a dunghill cock, will bring very good chickens ; but the best cock, from a dunghill hen, will never get a bird that's fit for the game ; therefore, if you intend to have a good breed, get good cocks to your hens.

-Best season for breeding.

Is from the increase of the moon in February, to the increase of the same in March. Let the nest be so placed, that she may not be disturbed by the sight of any other fowl, which frequently so raiseth her choler, that the eggs are in great danger ; let the compofure of her nest be made of soft sweet straw, and let it stand in some warm place, for she is a very tender bird. You are to obierve whether she turn her eggs often ; if not, you are to assist her therein. And that she may not rove far from her eggs, take care to supply her with necessary food ; let her likewise have fresh water, and sand, gravel and ashes, finely sifted, that she may trim herself at her pleasure in the place where she sits. Hens commonly hatch their chickens after 21 days ; observe in the hatching to take those newly hatched, and wrapping them in wool, keep them warm by the fire-side till the rest are disclosed : Being all hatch'd, put them under the hen, and be sure to keep her warm, and suffer neither

98 MANNER of BREEDING and DIETING.

ther her nor her chickens to straggle abroad till three weeks old at least: The room wherein they walk should be boarded, for all other floors are too moist and cold. After a month old, they should walk in some green place, that they may have the benefit of feeding on worms, and now and then to scower themselves with grass and chickweed; but be careful they come not near puddles, or filthy places, for they ingender in birds of this nature venomous distempers, which often prove fatal; for the prevention of such maladies, by way of antidote, give them every morning, before they range abroad, the blades of leeks chopp'd or minced small, and mingled among their usual diet, it will likewise be requisite to perfume their room with burnt penny royal, or rosemary. This is a necessary course to take till their sexes are distinguishable: And as soon as the comb and the wattles are discernable, or plainly visible to the eye, cut them away, and anoint the fore part with fresh butter till it be whole. The time of the separation of the cock-chickens, is when they begin to fight with and peck one another; till which time you may let them walk with the hen promiscuously together, but afterwards let their walks be apart, and that walk is best where he may securely and privately enjoy his hens, without the disturbance and annoyance of other cocks; for which purpose, walks at wind mills, water mills, lodges in parks, &c. are very good. Let the place of feeding be as near as you can on soft dry ground, or boards; for if the place be hard, it will so weaken and blunt their beaks, that they will be unable to hold fast. When the cock is in his walks, give him some white corn, and now and then a white-bread toast, steep'd in drink, or man's urine, which will both scower and cool him.

Number

Number of Hens proper to go with one Cock.

Let not above three hens walk with a cock, for should you suffer more, he will tread too much, by reason of the heat of their nature, and by often treading, they will consume their strength, and become so debilitated, that tho' they have courage enough, yet they have not strength to perform their parts as they ought to do in a battle.

Improper Time for Crowing.

If your chickens frequently crow before six months old, or unseasonably, and their crowing is clear and loud, fit them for either pot or spit, for they are infallible signs of cowardice and fallhood. The true game cock is long before he obtains his voice, and when he has got it, he observes his time to the greatest nicety,

Proper Age for Fighting.

A cock should not fight till he is complete and perfect in every member, and that is not till he is two years old, to fight him before, while his spurs are tender, is great folly: you may then probably know his valour and courage, but you cannot know his real worth and goodness.

The proper Roosting Perch.

Take care that your cock's roosting-perch be not too small in the gripe, or so ill placed, that he cannot sit without straddling, or if it be crooked it is bad, for by these means, a cock will be uneven heel'd, and consequently no good striker: for know, that a perch often makes or mairs a cock, to remedy or prevent such faults, is to have in your roost a row of little perches, about eight inches in length, and ten inches from the ground, that the cock may with more facility ascend, and being up, forced to keep his legs near together, and that cock which sits close, is surely a narrow striker. Let the foot-stool of the perch be round and smooth, and the ground underneath

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neath the perch be soft, otherwise, when he leaps down, he will be apt, on a rough and hard ground, to hurt his feet, insomuch that they will grow knotty and gouty.

The manner of dieting and ordering a Cock for battle.

The knowing cockers are cautious how they divulge their secrets of dieting, as on that the winning or loosing a battle chiefly depends, the best cock undieted, is unable to encounter the worst that is dieted; but let others be as sparing as they please of their experience and observations, for my part, I shall be free, and not conceal any thing that may tend to the propagation of the art of cock-fighting.

Time of taking up Cocks

The time of taking up your cocks, is about the latter end of August, for from that time, till the latter end of May, Cocking is seasonable, and in request, the summer season being improper, by reason of its great heat. Having taken them up, view them well, and see that they are sound, hard feather'd, and full summ'd, that is, having all feathers complete, then put them into several pens, having a moving perch therein, to set it at which corner you think most convenient: Keep your pens clean, and let not your cocks want either meat or water.

Manner of feeding the first four Days.

The first four days after your cock is penn'd, feed him with crumbs of old manchet, cut into square bits, about a handful at a time, and feed three times a day therewith, at sun-rising, about noon, and at sun-setting, and let his water be cold and clear.

Manner of Sparring.

Having fed your cock thus four days, or so long till you think he hath purged himself of his corn, worms, gravel, and other coarse feeding, then, in the morning, take him out of the pen, and let him sparr a while with another cock, which is done after

ter this manner: Cover your cock's heels with a pair of hots, made of rolls of leather, that they cannot bruise or wound one another, and then setting them down on straw in a room, or grass abroad, let them fight some time, but not draw blood of one another: This exercise heateth and chafeth their bodies, and it breaketh the fat and the glut that is within them, and adapts it for purgation.

Manner of Sweating a Cock.

Having sparred as much as is sufficient, which you may know when you see them pant and grow weary, then take them up, and taking off their hots, give them a sweat after this manner: Put them in deep straw baskets, made for the purpose, or for want of them, take a couple of cocking-bags, fill these with straw half ways, put in your cocks severally, and cover them over with straw to the top, then shut down the lids, and let them sweat; but do not forget to give them first some sugar candy, chopt rosemary, and butter, mingled and incorporated together, let the quantity be about the bigness of a walnut; by so doing you will cleanse him of his grease, increase his strength, and prolong his breath.

When to be taken from their Sweating Places, and what to be done

Towards four or five o'clock in the evening, take them out of their stoves, and having lick'd their eyes and head with your tongue, put them into their pens, and having filled their troughs with square cut manchet, piss therein, and let them feed whilst the urine is hot, for this will cause their scowering to work, and will wonderfully cleanse both head and body.

The manner of making Cock bread.

You are now to diet your cocks with the following bread: Take of fine wheat-meal and oat-meal-

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flour,

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flour, of each one gallon, and knead them into a small paste, with ale, the whites of half a score eggs, and some butter, having wrought the dough very well make it into broad thick cakes, and when they are four days old, cut them into square pieces, I will not advise you to use (as is the custom with some) liquorice, anniseeds, or other hot spices among your aforesaid ingredients, for they will make a cock so hot at the heart, that towards the end of a battle, he will be suffocated and overcome with his own heat. In short, that food is best, which is most agreeable to his own natural feeding.

The second Day after Sparring.

Take your cock into a green close, and having a dunghill cock in your arms, shew it him, and then run from him, that thereby you may entice him to follow, you permitting him to have now and then a blow, and thus chase him up and down about half an hour; when he begins to pant, being well heated, take him up, carry him home, and give him this scowering: Take half a pound of fresh butter, and beat it in a mortar with the leaf herb of grace, hyssop, and rosemary, till they all look like a green salve, give him thereof a piece as big as a walnut, and then feed him as before, till evening, and continue his feed according to former prescription. The next day, let him feed and rest, and sparr him the day following: Thus do every other day for the first fortnight, either sparring or chasing, and after every heat a scowering, which will keep him from being fat and purisy. Feed him the second fortnight as you did the first, but you must not sparr or chase him above twice a week; observing still, that if you heat him much, you must stowe him long, and give him a greater quantity of scowering. When well in breath, slight heats, small scowrings, and little stoving will

will do best. The third fortnight (which is a time sufficient for ordering a cock for the battle) you must feed him as before, but not sparr him at all, for fear of making his head sore; but you may moderately chase him twice or thrice, and give him his scowering, rolled well in brown sugar-candy, which prevents the scowering from making him sick: You may let the cock rest four days, and then you may match him observing that he come empty into the pit.

Way of Matching Cocks.

As a great deal depends on matching a cock properly, you are carefully to observe both the length and strength of them, for if your adversary's cock be too long, your's shall hardly catch his head, and so be incapable of endangering eye or life, and if he be the stronger, he will over-bear your cock, and not suffer him to life or strike with any advantage.

The Way of knowing the Length and Strength of a Cock.

The length you may judge of by your eye, when you gripe the cock by the waist, and make him shoot out his legs, in which posture you shall see the utmost of his height and compare them together, being herein governed by your judgment, his strength is known by the thickness of his body. That cock is most surely the strongest, that is largest in the garth. You shall know the dimensions of the garth by the measure of your hands, griping the cock about from the points of your great fingers to the joints of your thumbs, and neither of these advantages by no means give your adversary; if you doubt loss in the one, be sure to gain in the other: For the weak long cock will rise at more ease, and the shorter strong cock will give the surer blow.

How to prepare Cocks for Fight.

Having made an equal match as near as you can, prepare him for Fighting after this manner. First, with a pair of fine cock-shears, cut all his mane off close unto his neck, from the head to the setting on of the shoulder. Secondly, clip off all the feathers from the tail close to his rump, the redder it appears, the better is the cock in condition. Thirdly, take his wings and spread them forth by the length of the first rising feather, and clip the others slope-wise, with sharp points, that in rising he may therewith endanger an eye of his adversary. Fourthly, scrape, smooth, and sharpen his spurs with a pen-knife. Fifthly and lastly, see there be no feathers on the crown of his head for his adversary to take hold of; then with your spittle moisten his head all over, and turn him into the pit to try his fortune.

The manner of ordering Cocks after Battle, and how to cure their wounds.

The battle being ended, immediately search your cock's wounds; those you find, suck the blood out of them, and wash them well with warm urine; after this, give him a roll or two of your best scowering, and stowe him up as hot as you can for that night; in the morning, if his head is swell'd, you should suck his wounds again, and likewise bathe them again with warm urine; then take the powder of the herb Robert, put it into a fine bag, and pounce his wounds therewith; after this, give him a large handful of bread to eat out of warm urine, and then put him into the stove again, and let him not feel the air till the swelling be fallen.

Hurt in the eye, and how cured.

If he hath received any hurt in his eye, then take a leaf or two of right ground ivy, that which
grows

grows in little tufts in the bottom of hedges, and hath a little rough leaf, take this ivy, chew it in your mouth, and spit the juice into the eye of the cock, and this will not only cure the present malady, but prevent the growth of films, haws, warts, or the like, destructive to the eye-sight, After you have put your wounded cocks to their walks, take care to see them now and then; and if you find about their head any swell'd bunches, hard and blackish at one end, you may then conclude, they are unsound cores, in such bunches, which open, and crush out the matter with your thumbs; after the corrupted matter is well cleans'd from the excrescences fill the cavities with fresh butter, and a cure will surely follow.

Sore Eyes.

Are cured by chewing a leaf or two of ground-ivy in your mouth, and spitting the juice therof into the eyes of the fowl.

Cure for the Pip.

The pip is a white thin scale growing on the tip of the tongue, by which means poultry in general cannot feed: It is very visible to the eye, and proceedeth from foul feeding, or want of water: It is cured by pulling off the scales with your nail, and rubbing the tongue with salt.

Cure for the roop.

This is a filthy boil, or swelling, on the rump of the cock, hen, &c. and will corrupt the whole body. It is known by the staring and turning back of the feathers: For the cure, you are to pull away the feathers, and open the sore to thrust out the core, then wash the part with water and salt, and the cure is effected.

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To cure the flux.

This often happens from eating too much moist meat: They are cured by giving them scalded pea-bran, but if they cannot mute, anoint their vents, and give them corn steep'd in man's urine.

Lice destroy'd.

Lice is a common infirmity among them, proceeding from corrupt food, or for want of bathing in sand, ashes, or the like: They are destroy'd by washing the fowl in warm pepper water.



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The following valuable Secret for feeding a Cock four days before fighting, was communicated to the Author, by a noble Lord, by which remarkable Method of Feeding, it appears, that ninety-three Battles have been won out of a Hundred.

I Don't doubt, says our noble author, but you have taken care (as a battle is at hand) to purge your cock of his gross feeding. — I suppose the time no longer than four days before you intend him to try his fortune in the pit ; therefore.

The first day at sun rising, give three ounces of bread (cut in small squares) made in the following manner, *viz.* Millet-seed and rice, of each half a pound ; grind these into a powder, then add thereto four ounces of French Barley, and the like quantity of vetches ; these are likewise to be ground to a fine powder. This flour you are to wet with sound strong drink, after having tinctur'd it of a high colour with cochineal : Add to the whole, the whites of three eggs, and white and yolk of a fourth ; make the dough into one loaf, and bake it four hours in a very slow oven ; two days after baking, it will be fit for use.

First day at noon, give bruised millet-seed and rice, in equal quantities, about a common spoonful.

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First day at night, about sunset, give the same quantity of the bread as in the morning.

Second day in the morning, give half the quantity of bread, and one ounce of the millet-seed and rice, bruised as before.

Second day at noon, give two ounces of the bread alone, cut in square pieces.

Second day at night give the same.

Third day in the morning, give two ounces of the bread, and one ounce of bruised rice and millet.

Third day at noon, if the cock takes to the rice and millet, let him have a heap'd spoonful; if not, give him an ounce of the bread, and a little of the bruised seeds.

Third day at night, give him about an ounce of sheep's heart, cut very small, well boil'd, and mix'd with about an ounce of the bread.

Fourth day in the morning, give one ounce of the bread alone.

Fourth day at noon, give one ounce of the bread, and half an ounce of the bruised seeds.

Fourth day at night, give one ounce of the bread, and a very little of the heart.

Fifth day in the morning (which I suppose the day for fighting) about five o'clock, give half an ounce of the French barley, grossly bruised.

About ten in the morning provided the cock does not fight till afternoon (if he Fights in the morning, this is to be omitted) give half an ounce of the bread, cut small.

A few minutes before you bring him to the pit, give him twenty or thirty millet-seeds, steep'd in sherry; and rub and moisten his mouth with a rag wet with sherry, and a few drops of vinegar, immediately before he faces his antagonist.

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The cock is to have no water the four days before Fighting, but what is scented with musk, and plenty of balm-leaves steep'd in it.

If you bathe his head now and then with old verjuice, milk-warm, it will do much good.

**** It has been observed, that the water which comes from chalk, or lime stone, is far the best for game fowl, during the first month of feeding.*





T H E
GARDENER'S LEGACY.

Containing all the
Instructions necessary for the Cultivation of the
FRUIT, FLOWER, and KITCHEN GARDEN.

Together with many choice IMPROVEMENTS result-
ing from near Fifty Years Experience.

*By CHARLES KNIGHT, upwards of Forty
Years Principal Gardener to two noble Families.*

I N T R O D U C T I O N.

USEFUL improvements in the art of gardening are so interesting to almost every individual, that I have been led to consider the result of my experience as a debt due to the publick: This consideration alone, has induced me to lay aside every sinister view of private emolument, when obtain'd by concealing

cealing that which might be productive of universal utility. And as I have no vanity to gratify, by being recorded as a voluminous writer, I have confined myself to such instructions only as are of real use.

As it would be absurd to say any thing in favour of an art, the pursuit whereof is well known to afford health, pleasure, and profit; it would appear altogether as unnecessary to shew the advantages arising from this method of faithfully reducing the proper instructions requisite in gardening to a small compass; since it will be universally allow'd that this is the best method of assisting the memory without perplexing the mind. I shall therefore avoid saying much in favour of this undertaking, and only inform my readers that I have divided this treatise under the different heads of the fruit, the flower, and the kitchen garden; and for the more ready finding out each particular, have rang'd them alphabetically under each head.

THE GARDENER'S LEGACY.

The Manner of cultivating the Apple-Tree.

THIS fruit is cultivated in England in great variety, and planted sometimes against walls, but more commonly as standards in orchards and gardens, or in espaliers. Those intended for dwarfs, whether in espaliers, or otherwise, should be grafted on the codling, or the paradise stock; but if they are intended for standards, the crab stock is much more durable and hardy. The proper time for planting, in a dry soil, is October, as soon as the leaves are off; but, in wet ground, it is most adviseable to defer it till February. And it will serve as an inviolable maxim, that the greater distance fruit trees are

are planted from each other the better; since the trees will be more healthy, and afford much larger crops.

A P R I C O T.

Of this fruit there are also various sorts cultivated in English gardens, viz. the Algier, Turkey, Roman, Breda, Orange, Masculine, and the Transparent Apricot; all which are propagated by budding them on plumb stocks; whereon, if the stocks be free and thriving, they will grow with very little difficulty. An east or west aspect is most suitable to this fruit, because too much heat is apt to make them mealy before they are ripe. The borders under the walls where they are planted ought to be at least two feet wide, and about the same depth of earth: If the soil is not good, fresh earth from dry pasture ground is most proper. Before they are planted, cut off the small fibres of the root, and after they are put in the ground, nail the branches to the wall in an horizontal line, and such shoots as are proper to remain, ought not to be check'd in their growth, but those which are produc'd fore-right, may be occasionally taken off, to prevent their hanging from the wall. At Michaelmas, when the growth is ceased, loose the branches from the wall, and shorten them according to their strength; a weak branch should be cut to about five or six inches, and a strong one to about eight or nine; after this, nail them again in an horizontal position, because they bud best. Observe this method every year, whereby the tree may be kept full of bearing wood, instead of being confined to the ends of each branch only. Blossoms are produc'd from the spurs of the two years wood, as well as from that of the last year's growth, as will be found by experience; therefore great care should be taken to preserve these

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in the summer, but not to leave any part of the branches for nags and spurs.

C H E R R Y T R E E.

The different sorts of this fruit, which are very numerous, are propagated from budding or grafting into stocks of the black or wild cherry, which are strong shooting plants, and of great duration. Some of the antients used to graft this fruit upon the laurel stock, which is said to give the fruit an agreeable bitter; but this experiment is seldom try'd in England. The best method of raising stocks, is to take the wild black or red cherries, when full ripe, and lay them in sand for the winter; early in the spring sow them in light ground, and when they appear, take care to keep them clear of weeds, refreshing them frequently with water, if the season is dry: They should remain in the seed-bed till the second Autumn after sowing; and in October plant them in rows, about three feet assunder, in good fresh ground. The second year after planting, they will be fit to bud. The sorts usually planted against walls, with a south aspect, is the Early May, and a May-Duke; the Heart and common Duke will do upon a west wall, and the Morello on a north. Morello Cherries are most esteem'd for preserving, their juice having a pleasant sharp acid; but this tree, when planted in a south aspect, produces a pleasant well tasted fruit. It must be observ'd, in pruning the cherry-tree, never to shorten the shoots, because the fruit is chiefly produc'd at the extreme parts; therefore in the spring the shoots should be trained along the wall in a horizontal position.

C U R R A N T T R E E.

This tree is propagated with great ease, by planting the cuttings any time from September to March; but they are least liable to misfortunes when planted about the latter end of September. The finest fruit
of

of this kind is produced when they are planted against walls, or in espaliers, and the shoots laid out horizontally.

FIG TREE.

The best method of propagating this plant is from layers, tho' many Gardeners are accustomed to raise them from the suckers of old trees. In January lay down all the convenient strong shoots, and they will be fit to transplant in twelve months. A light sandy soil is most proper; but land that is cold and wet may be much improv'd by digging it about three feet deep, and throwing in rubbish from buildings, or gravel, about a foot deep, and then covered with two feet of earth. If they are for standards, little trouble is requir'd, let them have a south aspect, prune them in October, and take off all the second crop of figs, which are very detrimental, if left to rot upon the tree.

FILBERT, or NUT-TREE.

All kind of nuts are raised with very little difficulty, by sowing nuts; but as it seldom happens that those raised by this method prove so good as the nuts they are produc'd from, it is the surest method of obtaining the sorts desired to raise them from layers and is also the most expeditious way. If you raise them from seed, it is best to put the nuts in sand all winter to preserve them from vermin.

GRAFTING.

I shall first speak of the implements made use of, which are a knife with a strong back, a small hand-saw, a grafting-chissel, and small mallet, and a pen-knife to cut the buds; You should also be provided with clay well prepared, and bass-strings, or woollen-yarn to tie the grafts. There are various methods made use of according to the size of the stock; large trees are grafted in the rind, which is called shoulder-

shoulder-grafting; stocks of about an inch, or two, diameter, are cleft, and the buds laid in; and whip-grafting is made use of where the stocks are an inch diameter, and under, and is the most effectual way of any, and at present most in use: But as this has been so often treated of in books of Gardening and Agriculture, I shall only give the necessary *General Directions* with regard to the stocks which different fruits should be grafted upon. All such trees as agree in flower and fruit, will take upon each other: For example; all Nut-bearing trees may be safely grafted on each other; as in like manner may the Plumb-bearing trees, under which head I reckon not only the several sorts of Plumbs, but also the Almond, Peach, Nectarine, Apricot, &c. All such trees as bear cones will do well upon each other, tho' they may differ in one being over-green, and the other shedding its leaves in winter; as is observ'd in the Cedar of Libanus and the Larch-tree; as also the Cherry on the Laurel, or the Laurel on the Cherry.
See Inoculation.

GOOSEBERRY TREE.

This tree is raised from cuttings in like manner with the Currants, tho' it is very common to plant suckers; but it has been found by experience, that most plants raised from suckers are more productive of them than any other, and therefore ought to be avoided. The different sorts of Gooseberries are so numerous, that it would be difficult to ascertain how many there are; and new kinds are every day produced, differing either in taste, shape, or colour, by sowing the seeds; for seeds of the same tree will be productive of a great variety of sorts.

IN CULATING, or BUDDING.

This is commonly practis'd upon all sorts of Stone fruit; in particular such as Peaches, Nectarines, Cherries, Plumbs, &c. as also upon Oranges and Jessamines,

Jeſſamines, and is preferable to any ſort of grafting for moſt kinds of fruit. The method of performing it, is as follows: You muſt be provided with a ſharp penknife, having a flat haſt (the uſe of which is to raiſe the bark of the ſtock, to admit the bud) and ſome ſound baſſmat, which ſhould be ſoak'd in water, to increaſe its ſtrength, and make it more pliable, then having taken off the cuttings from the trees you would propagate, you ſhould chuſe a ſmooth part of the ſtock about five or fix inches above the ſurface of the ground, if deſign'd for dwarfs; but if for ſtandards they ſhould be budded fix feet above ground: Then with your knife make an horizontal cut croſs the rind of the ſtock, and from the middle of that cut make a ſlit downwards about two inches in length, ſo that it may be in the form of a T: But you muſt be careful not to cut too deep, leſt you wound the ſtock. Then having cut off the leaf from the bud, leaving the foot ſtalk remaining, you ſhould make a croſs-cut about half an inch below the eye, and with your knife ſlit off the bud, with part of the wood to it, in form of an Eſcutchion. This done, you muſt with your knife pull off that part of the wood which was taken with the bud, obſerving whether the eye of the bud be left to it, or not (for all thoſe buds which loſe their eyes in ſtripping, ſhould be thrown away, being good for nothing (then gently raiſe the bark of the ſtock with the flat haſt of your penknife clear to the wood, you ſhould thruſt the bud therein, obſerving to place it ſmooth between the rind and the wood of the ſtock, cutting off any part of the rind belonging to the bud, which may be too long for the ſlit made in the ſtock, and ſo having exactly fitted the bud to the ſtock, you muſt tie them cloſely round with baſſmat, beginning at the under part of
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the slit, and so proceed to the top, taking care that you do not bind round the eye of the bud, which should be left open. When your buds have been inoculated three weeks or a month, you will see which of them are taken, those of them which appear shrivell'd and black, being dead; but those which remain fresh and plump, you may depend, are join'd; and at this time you should loose the bandage, which, if not done in time, will pinch the stock, and greatly injure, if not destroy the bud. The March following you must cut off the stock about three inches above the bud, sloping it, that the wet may pass off, and not enter into the stock; to this part of the stock left above the bud, it is very proper to fasten the shoot which proceeds from the bud, and would be in danger of being blown out, if not prevented; but this must continue on no longer than one year, after which it must be cut off close above the bud, that the stock may be cover'd thereby. The time for *Inoculating* is from the middle of June until the middle of August, according to the forwardness of the season, and the particular sorts of trees, which may be easily known, by trying the buds whether they will come off well from the wood. But the most general rule is, when you observe the buds form'd at the extremity of the same year's shoots, which is a sign of their having finish'd their spring growth. The first sort commonly inoculated is the Apricot; and the last the Orange tree, which should never be done till the middle of August. And in doing of this work, you should always make choice of cloudy weather; for if it be done in the middle of the day, in very hot weether, the shoot will perspire so fast, as to leave the buds destitute of moisture. Nor should you take off the cuttings from the trees long before they are us'd; But if you are oblig'd to fetch your cuttings from some distance,

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as it often happens, you should then be provided with a tin instrument, having a socket about ten inches long, and a cover to the top, which must have five or six holes; in this socket you should put as much water as will fill it about two or three inches high, and place your cuttings therein in an upright position, so that that part which was cut from the tree may be set in the water, and so fasten down the cover to keep out the air; and the holes in the cover will be sufficient to let the perspiration of these branches pass off; which, if pent in, would be very hurtful to them; and you must be careful to carry it upright, that the water may not reach to the buds; for it is a very wrong practice in those who throw their cuttings all over in the water, which so saturates the buds with moisture, that they have no attractive force left to imbibe the sap of the stock, whereby they very often miscarry. But before I leave this head I beg leave to observe, that tho' it is the ordinary practice to divest the bud of that part of the wood which was taken from the shoots with it; yet in many sorts of tender trees it is best to preserve a little wood to the bud, without which they often miscarry. The not observing this has often occasion'd some people to imagine that some sorts of trees are not to be propagated by inoculation; whereas, if they had perform'd it in this method, they might have succeeded, as I have several times experienc'd.

M U L B E R R Y.

It has been usual to raise this tree from seeds, and from layers; the seeds indeed have been always productive of the most sightly trees, but as these have generally proved of the male-kind, they bear but little fruit, and those from layers are mostly crooked, and troublesome to form into handsome trees: But the only method to have full grown trees, and plenty of

of fruit in a few years, is to take some handsome branches, about as thick as a man's thigh, from large trees in October, when the leaves are fallen off; cut off the tops and boughs, and bark them at the thick end, about eight or nine inches, plant them in lightish ground, neither wet nor dry, where they will have the benefit of east and south east sun, and if they are shelter'd from the west and south west winds, the fruit will be better preserved. Fix stakes in the ground to support them, in order to prevent their being shook by the wind as they are striking root.

NECTARINE.

This tree is cultivated in the same manner as the Peach, to which I shall refer my Reader in the following Article.

PEACH.

We have a prodigious catalogue of the different sorts of this fruit, but I confess that I could never convince myself that they were all real; however, it must be confess'd, that though we have not above two sorts of them natives of England, yet there are many other species of this plant in America. But let the sort be what it will, a good peach should have these qualities: A firm thick flesh, thin skin, a deep or bright red next the sun, small stone, and full of high flavour'd juice. The peach and nectarine are propagated to the greatest perfection by inoculation upon stocks of the muscle and white pear plumb; and some of the tender sorts upon the apricot and almond stocks. The stocks are fit to bud upon at two years old: The proper season is about midsummer; and great care should be taken to make choice of the cuttings of such trees as are healthy and free from blights, for if the juice of the tree is distempered, it can seldom be recovered by any art.

Your

Your cuttings should be taken from the trees in a cloudy day, or when the sun is gone off. In pruning the peach or nectarine, take care that the tree be equally furnished with bearing wood, and not left too full of branches. In May rub off the irregular shoots, and train those that are left in regular order: This management will leave room for the sun to ripen the fruit, and prepare the young wood for next year's bearing. Too much cutting is of great disadvantage to this sort of trees, their wood being tender and subject to canker by the wet before they are healed. When the fruit is set, and about the bigness of a nut, you should carefully look over the tree, and if they are in clusters, thin them till they are at least five or six inches, for this will not only preserve the strength and vigour of the tree, but make the fruit much larger, and better tasted.

P E A R S.

Bud or graft upon stocks of their own kind; these are called free stocks, and upon these the fruit is found to prosper best, but if they are intended for dwarfs, it will be proper to check the growth by budding or grafting upon the white thorn or quince stock. The fruit is produced from the curzons or spurs; so that if the branches are laid horizontally against a wall, they will be regularly covered with fruit more than twenty feet from the stem. The standards, many of which are very large, are but fickle bearers; and when they become old, it is often found necessary to bark the trunk of the tree quite round two feet from the ground, which will throw them into bearing wood.

P L U M B T R E E.

This tree grows best in a soil neither very light nor heavy; many persons plant them as standards, but the fruit is not so fair as when planted against walls, and is more subject to be blown off. They are propagated by grafting or budding upon the stocks of any kind

kind of free shooting plumb, the proper time for removing or planting is in October or February.

R A S B E R R Y.

This is a fruit well known, and easily cultivated, as they will grow in any dry soil. Plant the suckers in February or March, in rows, at such a distance as will permit you to walk between them when they are grown up, both for the conveniency of gathering the fruit, and keeping them free from weeds, when they have stood a few years, it will be best to cut away the old wood, and leave the young shoots standing; by which means the fruit will be larger, and better flavoured.

S T R A W B E R R I E S.

Of these there are five sorts, *viz.* the large Chili, the Hautboy, the Wood, the scarlet Virginia Strawberry, and the white common Strawberry; The best soil for these plants is a hazly loam. The ground should be cleans'd from the roots of noxious weeds, and well dug. Plant them in rows, that you can walk between them conveniently, for they must be well water'd in the spring all the time they are blowing; set the plants about sixteen or eighteen inches asunder, and in autumn take away all the strings or runners, clear them from weeds, and throw a little fine earth very thin upon the beds. Michaelmas is the best time for planting; and they must be kept clear of weeds all the year.

W A L N U T T R E E.

This tree is best rais'd from seed, and if it is intended for timber, ought not to be remov'd, as it retards the growth, and makes them break out in branches, but if it is cultivated for fruit, the transplanting is of great advantage. It delights in a rich loamy soil that is firm, and will thrive well in chalky or stony ground. It is a common maxim, that this tree bears best for being well beat and wounded, which

which notion Mr. Miller says is ill founded ; but experience tells us, that whatever methods are taken, that will cause a great number of young shoots to break out, fruit will be plentifully produc'd, and beating is known to answer this end. If you would raise them from seed, keep the nuts in sand till February before you put them in the seed-bed.



The Manner of cultivating Flowers, &c.

A M A R A N T H U S.

IN the East and West Indies this plant is cultivated in great variety, but there are not more than ten or eleven sorts produc'd in English gardens : The seeds of the various sorts must be sown in February or March, in a good hot bed, covered about 4 inches thick with rich, light earth, and they will rise in about a fortnight, at which time you must have a second hot-bed ready to receive them, with a deep frame, to give room for their growing : Plant them at the distance of about 4 inches, and be careful in transplanting that you break not the tender fibres of the root. Water them gently, so that the plant break not down, and as they get strength, give them a little air in serene weather, to enable them to bear being transplanted into pots. When you transplant them into pots, take care to screen them from the sun, and refresh them frequently with water ; let your pots be shelter'd from the violence of the strong winds, as well as the sun, and water them every day. The amaranthus is a tender plant, and must be diligently follow'd, which trouble, in a fine season, is recompenc'd by a wonderful large fine flower, justly esteem'd one of the greatest ornaments of a fine garden.

A U R I.

A U R I C U L A.

This flower is produc'd from seed and from slips. The time of sowing is in autumn, in a light sandy mould, mix'd with rotten cow-dung, and put in boxes or pots. Remove them in March to some part of the garden, where they will not have too much sun, and in July they will be large enough to transplant. The spring following they will flower; when you will have an opportunity of seeing which is good, and these may be propagated by taking slips from the root when they are in flower, and transplant them; observe, they must not have too much sun in summer, nor too much wet in winter.

C A R N A T I O N.

It is impossible to enumerate the various sorts of this flower, since so many new ones are produc'd every year from seed, and are generally call'd by the favourite name of some nobleman, or the person who rais'd them. The time for sowing is in March, in the same kind of earth as the auricula. Take care not to sow your seed too thick, and sift some fine mould very thin over the pots; set the pots where they will receive the benefit of morning sun only, and refresh them frequently with gentle waterings. They will soon appear, and may be transplanted into beds, about 3 inches distant from each other in July. In a month's time it will be proper to transplant them a second time at the distance of about six inches, where they may stand to flower. Let your allies that divide the beds be at least two feet broad, that you may have room to go between without hurting the plants; and when they are in flower, you will have an opportunity of seeing which is worth propagating; this is done by layers, which will strike root so as to be fit to remove in about six weeks.

HOLLY-

H O L L Y H O C K.

These plants are raised from seed, which should be sowed in March upon a bed of fresh earth; when the plants are come up, and pretty strong, they must be transplanted into a nursery bed, about eight inches asunder, and watered frequently till they have taken root; after which, keep them clear from weeds, and they will require no further care till about Michaelmas, at which time it is proper to transplant them again into rows two feet asunder: Here let them remain till they flower, and such as prove good, may be removed to ornament proper places. Put down sticks to prevent the wind from breaking them down, and when the stalk decays, cut it off. You shall raise a fresh supply every three or four years, because the plant grows weaker, and should be dug up in that time to make room for young plants.

H O N E Y-S U C K L E.

This plant, for the fragrance of its smell, beauty, and long continuance in flower, is justly admir'd, and is a proper ornament for a wall, a tree, and espalier, or a dwarf in a border. They are propagated from layers, or from cuttings; if from cuttings, take off branches that have four joints, or buds, and plant them in rows about 18 inches apart; this may be done either in the spring or autumn, and when they have stood about a year, they will be fit to transplant; or they may stand two years as is most convenient.

J E S S A M I N E.

The jessamine is easily propagated by laying down the tender branches in the spring, which will be rooted and fit to transplant the spring following. They may also be raised by planting the cuttings planted in March in a damp soil, and screen'd from the violence of the sun. This method is not much practis'd, as the plants are seldom so good as those raised from layers.

J O N Q U I L L.

In England few persons have patience to produce this flower from the seed, as it is five years in coming to perfection ; for which reason the new sorts are generally the produce of Holland. Our method of propagating them is from off-sets or small roots divided from the old ones : The time of planting them is about the latter end of September ; when they should be planted in beds or borders separate from the other roots, because they require being dug up and transplanted every other year. The soil which best suits them is a hazel loam, not very stiff, nor yet too light ; it is also remarkable that where they have too rich a soil, they never continue good, so that nothing is requir'd but a fresh loamy soil, free from roots and noxious weeds.

L I L L Y *of the* V A L L E Y.

This plant delights in shady moist ground, and is propagated by separating the roots, and transplanting them early in the spring, before they begin to shoot. This plant is judg'd worthy of cultivation for the well-known physical qualities of its root, as well as beauty of its flower, and is found in the woods in some parts of England. We have also a double sort brought from Holland some years ago ; but whether produc'd originally from seed, or found by accident is uncertain.

P I N K S.

These are propagated by layers in the same manner as carnations ; as also by planting cuttings in July, and by sowing seeds ; they require very little care when planted on borders, only to be well watered while they are blowing ; during which season no flower has a more beautiful appearance, or affords a more agreeable smell.

P O L Y A N T H U S.

This primrose, or polyanthus, may be annually produc'd from seed, and requires but very little culture ;

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by

by this means two new sorts are produc'd in great variety: but if you would have any particular one, it must be propagated from a slip, as the seed scarce ever produced the same kind. The seed is ripe about the beginning of June, which is seen by the pods changing brown and opening. The properties of a good flower are large upright stems, producing many flowers on a stalk, the flowers large, beautifully strip'd, and such as open flat. They should be sown about the middle of March in a fine light, rich, soil, under a wall, or hedge, with a north, or northward aspect; as soon as they are up in five or six leaves, it will be proper to prick them out in shady borders, where they are intended to blow. The beauty of these flowers, when the good sorts are selected from the rest, are not inferior to auriculas.

R A N U N C U L U S.

The different sorts of this flower are propagated some from seeds, others from the off-sets of the root: For it will be found that the very double sorts never produce seed, for which reason the same change cannot be expected. The seeds of the other kinds are sown about the middle of March, in pots, or boxes, fill'd with fine light soil, under a wall, with a south-east aspect. After sowing, sift a little of the earth lightly over them, and as the sun has more influence, remove them to a cool aspect. The proper time for planting the roots is in October: And good florists never blow their ranunculus two years in the same earth.

R O S E - T R E E,

Of this shrub there are 46 different kinds, many of which are found in the hedges in different parts of England and Scotland; others are of foreign growth; but they are all hardy enough to bear our climate, and are propagated by layers or suckers, which may be planted out either in spring or autumn: If in the spring, they should be well watered, and often.

S N O W.

S N O W - D R O P S.

This plant is easily propagated by off-sets; for where they remain two or three years undisturb'd, each bud will have ten or a dozen flowering roots, and the like number of off-sets. The snow-drop is valued, as being the flower that ushers in the spring. They will thrive in almost any soil, and may be planted in any situation. The best season for transplanting them is in May; when they must be taken up, and after being dry'd in a shady place, it will be unnecessary to put them in the ground again till September, when they should be planted about two inches deep, and pretty close together, because the flower is small, and without this makes but a poor appearance.

S T O C K - J U L Y - F L O W E R.

Some people prefer the planting-slips from the double sorts of this flower, but as they seldom produce strong plants, it will be found most practicable to raise them from seed in the month of April, or beginning of May; they require a light, rich earth, and the morning sun: They are indeed somewhat subject to be destroy'd by the fly; to prevent which, throw a small quantity of raddish seeds in the bed, and the Fly will adhere to those only. As soon as they are up in five leaves, transplant them into good rich beds, and let them stand till they are about six inches high; frequently refreshing them with water, and taking care that they are not over-powered by the sun before they strike root. Here let them stand till they shew their bloom, in order to distinguish which is double, and those that you preserve must be taken up with as much earth as possible to the root when you remove them where they are to stand.

S U N - F L O W E R.

This plant is raised from seeds, sown in March, in the same manner as the hollyhock, to which, for the sake of avoiding repetition, we refer the reader.

S W E E T W I L L I A M.

There are about seven different kinds of this flower ; the single ones are propagated by seeds, sown in the latter end of March in light earth ; which will be fit to transplant into beds, at the distance of about six inches, in May ; where they may remain till Michaelmas following, when they may be transplanted into the wilderness, or pleasure garden. The double ones are propagated by layers in the same manner as carnations, and when put in pots, are pretty ornaments for court-yards, or balconies.

T U L I P.

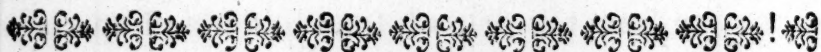
It would be in vain to endeavour to enumerate the various sorts of this Flower, for what are valued by some, are by others rejected and deem'd of little worth : However it may not be improper to point out the characteristicks of a good tulip, which should have a strong tall stem, the Flower should consist of six leaves, three within and three without, the former of which ought to be larger than the latter ; the bottom of the leaves should be proportion'd to the tops, and the upper part should be rounded off instead of terminating in a point : These leaves, when opened, should stand erect, neither turning inward, nor bending out ; the flower should be of a middling size, with small but regular stripes rising quite from the bottom of the flower ; and the chives should be yellow, but of a brownish cast. This sort of flower is universally allow'd by judges to be good. As to the management of a tulip, a great many persons pretend to much more knowledge than is real, especially in regard to breaking the breeders. Those who would cultivate this flower from seed, will find it most expedient to gather seed from the breeders, as these will produce the strongest and best plants. The beginning or the middle of September is the proper time for sowing, when shallow pans, or boxes, should be provided, with holes thro

thro' the bottom, to let out the wet, these being fill'd with light sandy earth as even as possible, and the seeds plac'd at a regular distance, sift over them a little of the same earth, about the thickness of half an inch; let these pans, or boxes, receive the benefit of the morning sun till October, and then remove them where they will have the sun upon them all day, and be shelter'd from the north winds for the winter season; in the spring let them be again remov'd to the morning sun; and, if the season is dry, refresh them occasionally with a little water, till the tops begin to decay, after this, give them no more water, but remove them in the shade for the summer, where they will be free from the drip of trees. The first appearance of these plants are somewhat like the onion, with bending heads, and the leaves seldom expand much the first year, as they seldom appear 'till the latter end of March, and decay again about the beginning of June. Keep the boxes clear from weeds and moss, and put a little fine earth over them occasionally, to preserve the roots, giving them the benefit of the sun in winter, as before. In the spring following; plant the bulbs out into a bed of light sandy earth, with tiles under it to prevent their shooting downward: Plant them about two inches deep, and in October cover the beds over with a little more fresh earth, to preserve the roots, covering the bed with mats to save it from the frost while the roots are young and tender. Let the bulbs remain in these beds for two years, keeping them clear from weeds, and refreshing them with water occasionally; and at spring and autumn sift on a little fresh earth. When the bulbs are large enough to blow, plant them out into fresh beds to see what flowers they will produce, which cannot be judged of till they have flower'd two or three years. Tulip roots should be taken up every year as soon as the leaves are decay'd, and being carefully dry'd and preserv'd from

the vermin, may be planted again at about the distance of ten inches square, the latter end of September, or sooner. Take care that the wet do not lie upon the roots in winter, for that is very destructive.

V I O L E T.

This plant is found wild in many places, and the single sort is that which affords so fine an odour; but as the other sorts are beautiful to the eye, they are frequently diversify'd in borders of gardens. The violet is an annual, but requires no further care than to plant a few roots, and keep them clear of weeds; for they sow themselves plentifully.



The Management of a Kitchen Garden.

A R T I C H O K E S.

THE red artichoke is at present the only kind that is cultivated about London, where this plant has been always better managed than by country gardeners, in the following manner: In the latter end of February, or the beginning of March, according to the season, transplant the suckers or slips from the old roots into rich ground and earth them very close; these young plants will produce large fair fruit the Autumn following. About this time of the year it will be proper to dress up the old stocks also; from which the earth should be carefully removed as low as any suckers are produc'd, and all of them well clear'd away; after this, put a quantity of very rich earth to each root. When you gather your Artichokes, cut them down close to the ground, and in October or November cover them over with earth to secure them from the frost, and they will need no other care till the spring. Some persons cover them up

up with horse-dung, which is very detrimental, as it draws and weakens the root.

JERUSALEM ARTICHOKE.

This is a species of the Sun-flower, and is an American plant, but as the roots are valued by many, being somewhat like Potatoes, it is frequently planted in the kitchen-garden, in some waste parts; where, being once introduc'd, 'tis difficult to get quit of again, and needs no trouble.

ASSARUM, or ASSARABECCA.

Is to be found wild in some parts of England in wet shady places, and is encreased by parting the roots in Autumn, and planting in wetground. The leaves are round, thick, and almost of the colour of the Ivy-tree.

ASPARAGUS.

About the middle of February sow your seeds on a bed of good earth, tread it gently into the ground, and rake it smooth. When they appear, take care to keep the bed clear from weeds, and in the beginning of the following winter spread some rotten dung about half an inch thick over the bed, to preserve it from the frost. About the April following your plants will be fit to remove; when you must prepare a piece of ground in trenches about half a foot deep, and a foot distant from each other; lay your roots in these trenches about ten inches a part, and cover them with the earth, making the bed level. Keep your beds clear from weeds in the summer, cut down the Haulm in Autumn, and lighten the earth with a fork in the Spring; and the third season after planting, you may begin cutting your Asparagus for use. A bed of Asparagus thus managed will bear cutting for ten or twelve years throwing a little rotten

dung over the bed annually, or at farthest every other winter.

B A U L M.

This is to be met with in most gardens, in the cultivation of which it is necessary to keep the bed clear of weeds, and at spring or autumn, once in two years, take up the roots, and separate them, to prevent their being too thick. If the season prove dry, it will be necessary to refresh them with water, when newly planted, till they have struck root.

B E A N S.

Are rais'd from planting the seed ; the sorts which best endure cold is the Portugal, or Spanish, which may be planted about Michaelmas ; and for crops to succeed these, they are planted in October, and so on as the weather permits : if the soil is dry and warm, the Windsor, or broad Spanish, may be planted from Christmas till March, according to the weather ; and many persons to have them early, plant them on gentle hot-beds, with hoops and mats over them, and transplant them out in rows when the mildness of the season will allow. They do best in good light earth while colds continue, but afterwards any ground will do.

B R O C C O L I.

It is a fine species of the cabbage, the time for sowing them is May, in rich moist ground, from whence they must be transplanted at the distance of about 3 inches : And in the beginning of August let them be planted out into beds well shelter'd from cold, at least two feet asunder, and they will be fit to cut from December till March.

C A B B A G E.

The management of cabbages is so easy as to require little instruction ; they are raised from seeds in the same manner as brocoli, and ought to be planted 3 feet asunder. There are various kinds, which are adapted

adapted to different seasons of the year, and succeed each other.

C A R R O T S.

Should be sown in January, if the weather is mild, in a warm sandy soil, dug very deep; after sowing, tread the bed all over, and then rake it smooth; and when they appear, take care to thin them sufficiently with the hoe. They thrive best near pales or hedges where it is warm.

C O L L I F L O W E R S.

Are produc'd from seed: If you would have them succeed each other, begin sowing about the end of July, and for later crops omit about a week between each. An old melon or cucumber bed is very proper to sow them upon, which must be made level, and cover'd with light fresh earth, and after you have sow'd the seeds, strew over them a little more fresh earth, shade them from the Sun, and give them gentle waterings as you see they require refreshment. In about a month's time your plants will be fit to remove, which you may do into a bed of the same nature they were first sow'd in, and set them about the distance of 3 inches by four asunder: Here they may continue till about the middle of October, when they should be removed to the place where they are to remain all the winter, which ought to be in frames, or on a border with a warm aspect. They will be ready for table in May, and will continue June and July.

C U C U M B E R S.

Are in the early season sown on hot-beds, and afterwards, when the weather begins to be warm, they will do in natural ground; these are the sorts made use for pickling. In order to have them early, make a hot-bed at Christmas, cover it about four inches with fine mould, put on your frame and glasses, and as soon as you find it warm, sow your seeds, and you may

continue to raise them in this manner till the beginning of April.

E N D I V E.

Should be sow'd at midsummer, and so on, at about three week's distance from each other, till Michaelmas, in order to have a succession for the winter. As soon as it has four or five leaves, plant it out at the distance of about six inches square, from whence, in a month's time, plant it in drills, at the distance of a foot, and the plants at about six inches. When it is grown up, tie the tops with bafs-matting to blanch it, and as soon as 'tis white, let it be us'd immediately. This is a warm, fine winter fallad, and not so much known as it deserves.

G A R D E N C R E S S E S.

Are also winter fallading, and should be sown on warm borders for the spring, and in winter on hot-beds; when you have cut it, water the bed, and it will grow again, and bear cutting a considerable time.

H O R S E - R A D I S H.

In the spring, when you use horse radish, plant the heads of the sticks in a wet deep soil, free from roots or rubbish; keep them clear from weeds, and no more trouble is requir'd.

K I D N E Y - B E A N S.

To have a succession of them, they should be sown at different times; the first in March or April; then again in May and June, this last crop will continue till the frost takes them. For the early season, put them on warm borders, and under walls; and some raise them in hot-beds. When they are in flower, give them water frequently, and they will bear much better. Sow them in shallow drills, and cover them lightly with earth.

L E T T U C E S.

L E T T U C E S.

Are propagated from seed sown at different times, as the weather will permit, from New-year's day to Michaelmas. Those sown late are for the winter, and should be planted out into beds or borders shelter'd from the cold, and where they will have the benefit of the sun. The lettuces chiefly in use are the green and white Cos, the brown Dutch, Imperial and Silesia. All the different kinds must be planted out from the seed bed, when they have five leaves, or soon after.

M I N T.

Is rais'd from seed sown on borders of common earth, in February or March, which must be afterwards transplanted into beds, or by dividing the roots in spring or autumn, and planting in dry ground; this method is attended with least trouble, if you can procure roots.

O N I O N S.

Should be sown about the beginning of March in rich dry sandy ground, but not too thick, eight pounds being a sufficient quantity for an acre of land — In a month or six weeks, according to the weather, they will be up high enough to be drawn or thin'd with a small hoe; at which time let the bed be clear of weeds, and the blades left at the distance of about 2 inches, and they will need no other care for a month, unless there should be occasion to refresh them with water; at the expiration of the month, hoe them a second time, when the weather is dry, that the weeds may die as soon as they are cut up, and thin the onions so as to leave them at least three inches apart: At the expiration of another month after this, hoe them a third time to the distance of six inches a-part, that they may have room to grow large. If the weather proves dry, this may be sufficient, and by having thin'd the crop,

crop, they will be large, and fit to gather by the middle, or latter end of July. The frequent hewing away the weeds, and keeping the ground loose is of great service before the heads begin to be large. The white Spanish is the Onion most in esteem.

P A R S L E Y.

May be sown in February, in a light moist soil, not very thick, which will be a means of making the roots much stronger, and will produce more leaves. It is very hardy, and when grown up, will bear cutting very frequently.

P A R S N E P S.

May be sown in a bed alone, or with carrots, in a mellow deep soil, in February or March, and should be hoed out to the distance of eight or nine inches, in order to let them have room to grow large, which is esteem'd the perfection of this root; for which reason it is the best way to sow them in the same bed with carrots, and as the carrots come off, they will have sufficient room. When the top begins to decay, they are fit to gather, and before that time they are seldom well tasted, nor are they good in the spring, after beginning to grow again.

P E A S.

The first season for sowing is about the beginning or middle of November, under walls with a south aspect, well shelter'd from the winds; when they are up, earth them from time to time as you see occasion. The hot-spur commonly call'd the nimble pea, is the most proper for this season, as it best endures the cold; it is also preferable to any other for a late crop to come in after the common season. Those for the middle season, when the weather is kind, is the mastic hotspur, the dwarf and common marrow-fats, the nonpariel, and the reading. Peas grow best in a light sandy earth.

P O T A T O E S.

P O T A T O E S.

Should be planted in a light deep soil that is rich, in the latter end of February, if the season is mild: If it is in a garden, dig a trench a spit deep, and lay in some straw thatch, or any-kind of long straw dung, if your potatoes have many eyes, they may be cut into several parts, taking care that one or more eye be left in each; lay in these at the distance of eight or nine inches, and cover them over again with litter; then throw the earth upon them. Let your next trench be at such a distance as to permit you to go between and earth them after they are grown up. — If planted in the field, a deep furrow will answer the purpose of a trench dug with a spade, which may be clos'd up again by the plow; and in this method leave proper room between each ridge, and they may be earth'd by the plow and cultivated with very little trouble.

R A D I S H E S.

Are now us'd for salading in the winter season; are rais'd under frames in hot-beds for this purpose, and sown very thick; those intended for eating, otherwise require a good, rich soil, and for an early crop, must be sown upon warm well-shelter'd borders, in the middle of October, and when up, they must be hoed or thin'd to the distance of about 3 inches square. The next season for sowing is about the beginning of the new year, if the weather is favourable, these must also be well shelter'd. In the middle of February, and so on to the middle or latter end of March, they will do upon open ground; and after this time they are subject to what is call'd the black fly, which generally destroys them entirely. Birds are very troublesome where radishes are sown, and for want of care, often destroy the whole crop.

S H A L L O T S.

S H A L L O T S.

Are propagated by separating the roots, and planting them in a warm border, at about the distance of four inches by nine, there to stand till they are fit to be taken up, which will be known by the declining of the heads. Then take them up, and dry them in the sun, and house them in some convenient place.

S P I N A C H.

The prickly narrow-leav'd spinach is hardy, and will endure the winter; sow it in the latter end of July, in an open spot of ground, when it is likely to rain, otherwise when dry weather succeeds, the crop is seldom regular. When it is up, hoe it in dry weather, to destroy the weeds and thin the crop, leaving them about five inches apart. As the weeds grow, about once a month clear them away, and in October it will be fit for use: When you gather it, crop the largest leaves, and leave those in the centre to grow bigger; thus you may continue cropping it all the winter. The other tenderer sorts should be sown from the latter end of February to the latter end of March; when this is up hoe it as the other, and take care that your spinach be kept clear of weeds, which cause the plants to run up weak. This spring crop will be fit for use in April, as the winter plants go off. This plant requires a good rich soil.

T H Y M E.

The lemon-thyme, and the variegated, which has striped leaves, are the only sorts propagated in gardens; the latter has a beautiful appearance; but the lemon-thyme is that which is used for seasoning. Both these sorts are easily propagated; their trailing branches strike out roots from the joints that lie upon the earth, and from one root, soon produce a large stock. The striped sorts were formerly used
for

for edgings to borders, and look very beautiful; but as they cannot well be kept within bounds, it is now difus'd.

T U R N I P S.

Have been of great use in the improvement of dry sandy lands, as well as food for cattle in winter; they are grown to great advantage in barren lands, from whence they are generally sweetest, and least liable to be sticky. The ground should be plow'd in May, and twy-fallow'd in June, and made very fine: The seed should be sown very thin the latter end of July; at which time it customarily receives the benefit of some refreshing showers, without which it is very common to have the whole crop destroy'd by the fly. The seed must be harrow'd in, and roll'd, and if the first crop is destroy'd, sow it again. When they are up in about five leaves, hoe them to the distance of six inches, that they may have room to apple. In gardens where the ground is moist, they are frequently sown in April, May, and June; but if the weather prove dry, they frequently miscarry.



*The Family Instructor for destroying Vermin,
and preserving Health.*

B U G S, *to prevent breeding.*

B U G S are not only become troublesome at *London* and *Dublin*, but are got into some Countries; and whereas People think they are bred of Hogs Hair, Wood, Wool, Cloth and Fur; these things breed only Lice, Moths and Worms; but Bugs proceed from old feather beds, whereon have long laid sick and sweaty people, which produces putrified smells and vapours; so does close press-beds that have not the advantage of the pure air; as also close rooms, where the air wants free egress and regress; from these Causes Bugs proceed; and also Consumptions, Weakness of the Back, and such like diseases that People little think off. And if you observe, you shall never find these creatures in shops, or where no beds are or have been put. One way therefore to prevent them, is to wash your rooms, and keep them very clean, and keep your windows open in the day-time, that the air may come in, and in the morning lay open your bed clothes, that the air may come in and Sun suck up the moisture contracted in the night-time: This is a great preservative against all Vermin, as also of your health; and would you use Straw or Chaff-Beds, or Quilts to lie on, a little time would make them as pleasant as Down-beds; but, however, let your feather beds be forced once in two or three years, and that will be a means to preserve you from Bugs and

and Sicknefs. Straw and Chaff-beds you may change with little charge as oft as you please. Now to destroy Bugs already got into your houses, I shall give you the best Receipts, which are as follow.

How to destroy House-Bugs.

Take the Sheet of Paper which is next to the Roll-Tobacco, two Grains of the Oil of Nitre, and as much sweet Oil as will spread over the sheet of tobacco-paper, with a little powder'd sugar, lay this in any part of the room or place where they are, and it will destroy them. This was communicated by a gentleman of *Leghorn*, who never knew it to fail.

Take Gun-Powder beat small, and lay some about the Crevisees of your bedstead, and fire it with a match about your bedstead, and keep the smoke in; this do for an hour or more, and let the room be kept close for some hours after. Or, take sprigs of Fern, and lay upon the boards, kills them.

Bugs. Take a handful of Wormwood and white Hellebore; boil them in Urine till it is half wasted, and wash the Joints of your bedstead with it.

Bugs. Take a quantity of unslack'd Lime, put it into a quart of water, and let it stand three or four days, then pour off the water, and add a quantity of common salt, the stronger both of lime and salt the better; wash the sides of the wall and bedstead with this liquor two or three times a week, it kills Bugs and Fleas.

Bugs. Burn Brimstone under the joints of the bedstead and crevisees where they lie, and they will come out presently, that you may kill them; do this two or three times a week, and keep the room close.

Bugs. Take a convenient quantity of good Tar, mix the juice of wild Cucumbers with it, and stir it five times a day for two days; then anoint your bedstead with it, and it kills them.

Bugs. The powder of Squills, mix'd with wine vinegar,

ga, rubb'd into the bedstead with a sponge, kills them
Bugs. Rabbits Guts boiled in water, and set under the bed, kills them.

Bugs. Vinegar and the Gall of an Ox mixed, or the Dregs of Oil and Ox Gall mixed; rub the joints and cracks of the bedstead with it, and it will kill them.

Bugs. Old Oil and Brimstone powdered and mixed together, then anoint the bedstead with it.

Bugs. Boil G'lew and Vinegar together, then rub the bedstead with it, and it will kill them.



R A T S or M I C E.

The following Receipts are now communicated to the Publick, and may be depended on as Infallible.

THKE one Pennyworth of Arsenick, double the quantity of best lump sugar in fine powder, the same quantity of fine white bread crumbled very small, or flower of malt, mix these with sweet cream and make it up into small pills which scatter late at night about their haunts. N. B. They must be fresh made the night you use them, as the cream soon grows fower.

Take two ounces of Glafs, one ounce of Cream of Tartar, one grain of Musk, four grains of Cinnamon, half an ounce of Anniseeds, all pounded, and one ounce of Malt Dust, mix them all with a Gill of sweet Oil, and make it into a PASTE. Great care must be taken that no children or cattle get at it, for the tasting it will be attended with immediate death.

Or, take Oatmeal and powder'd Glafs only, or mix them with fresh Butter, and lay where they come. or, Filings of Iron mixt with Oatmeal, or with Dough, or Oatmeal Flour, and lay where they come.

Rats and Mice to frighten away,

Take a Rat or Mouse, and beat or cut him very fore

fore, then let him go, and he'll cry and make such a noise that it will frighten the rest from your house.

Some flea the Skin off their Heads, and that does the same

Sir Hans Sloane's valuable liniment for sore eyes.

Take of prepared tutty one ounce; of lapis hæmatites prepared two scruples; of the best aloes prepared twelve grains; of prepared pearl four grains. Put them into a porphyry, or marble mortar, and rub them with a pebble of the same stone very carefully, with a sufficient quantity of viper's grease, or fat, to make a liniment; to be used daily, morning and evening, or both, according to the conveniency of the patient. — This receipt was purchased by Sir Hans Sloane of a person who had it from Dr. Rugely, and since published by him, in a pamphlet wrote for that end, wherein he highly extols it, and assures us, that almost all disorders of the eyes are certainly cured by this grand remedy.

Monf. Rouille's incomparable lip-salve.

Orange butter one drachm; conserve of iessamine, sperma-ceti, and tincture of coral, each half a drachm; honey-water 20 drops. Grind these well together in a marble mortar, and use it morning and evening.

The Lady Yorke's choice receipt to preserve from the small-pox, plague, &c.

Take garlick three heads, essence of wormwood, one drachm; let them infuse twelve hours in four ounces of white wine, and drink the liquor before you go near the infected; and afterwards the said lady affirms, you may go with safety amongst them.

Dr. Dover's excellent cure for the Itch

Sweet sublimate one drachm; cream of tartar one ounce. Let these infuse two or three days in a pint of spring water; then bathe the parts broke out therewith, morning and evening, four or five days, and the cure will be compleated. This is not only very effectual

fectual in curing, but very safe, cheap and clean. Bleeding is very necessary in this disorder. *N. B.* This is a chymical lotion advertised at 1s. 6d. the bottle, which contains little more than a quarter of a pint; here you have a pint for three pence, which is the charge of the two ingredients.

Warts or Corns speedily destroy'd.

Rub them with juice of house leek and celandine twice a day for a week, and you may depend on getting rid of them: If the corns are first cut as close as the person can bear, they will be the sooner destroy'd. —Multitudes have been taken away by only binding a single leaf of house-leek over each corn, and this in four or five days, and without the least pain. I have received innumerable letters of thanks for this article.

Quick Cure for Colds, weakneses, and some consumptive Cases.

Drink plentifully of mashmallow-tea, twice a day, till you find the disorder abated. This tea is admirable in the gravel; but then you may add thereto a few drops of spirits of nitre.

LIME-WATER; Its Use, and surprizing Effects on the Human Body.

It is undoubtedly an excellent remedy taken internally; a powerful alterant, and like a pure alkaline water, fitter to blunt and destroy acid ferments, which are the principles of all obstructions, and the cause of most chronick diseases. It is remarkably serviceable in cachexis, green-sickness, dropsy, scurvy, obstructions of the liver, spleen, &c. It strengthens the stomach, increases the appetite, and causes a good digestion; wonderfully cleanses the blood, cheers the heart, revives the spirits, and strengthens the whole body: It is a most egregious deopilative, and momentarily opens all obstructions in the stomach, gall, mesentery, womb, hypochondria, bowels, reins, and bladder, and other organick parts, dissolving and carrying

rying off the cold, acid, and viscous humours sticking to the tunics of the lungs, stomach, guts, &c. causing almost all diseases incident to men, women, and children; presently taking away all their faintness, weakness, and indisposition; insomuch that those who look like death itself, and are scarcely able to go or stir about, it gives immediate relief to; and proves itself to be almost a miracle of medicine. Drink half a pint morning and evening. It is made thus: Put 3 wine quarts of hot water on one pound of quick lime; let it macerate for the space of 24 hours. and it is fit for use.

An infallible Cure for the Bite of a Mad Dog, brought from Tonquin, by Sir George Cobb, Bart.

Take 24 gr. of native cinnabar, 24 gr. of factitious cinnabar, and 16 grains of musk. Grind these together into an exceeding fine powder, and put it into a small tea-cup of arrack, rum or brandy; let it be well mix'd, and give it to the person as soon as possible after the bite; a second dose of the same must be repeated thirty days after; a third may be taken in thirty days more: But if the symptoms of madness appear on the persons, they must take one of the doses immediately, and a second in an hour after; and, if wanted, a third must be given a few hours afterwards. The above receipt is calculated for a full grown person, but must be given to children in smaller quantities, in proportion to their ages. This medicine has been given to hundreds with success; and Sir George Cobb himself has cured two persons who had the symptoms of madness upon them. If in the madness they can't take it in liquid, make it up into a bolus, with honey; after the two first doses, let it be repeated every three or four hours, till the patient be recovered: This repetition to be omitted unless necessary. You are to take all imaginable care that the musk be genuine.

A never

A never failing Cure for the Tooth-ach.

The author of this secret observes, that out of 200 persons that have try'd this remedy, in one month, not more than seven or eight have fail'd of a cure. You are to put a piece of salt-petre to the aching-tooth, teeth or gums, about the size of a horse-bean, and in a few minutes you will certainly find relief. To complete the cure, and prevent a return, take the snuff mention'd at the end of this book, according to the directions there given. The cure for the tooth-ach, &c. advertis'd at 1s. the bottle, is made thus: Spirits of nitre half an ounce; allum one drachm; spring-water three ounces: Mix well together, and tincture with cochineal, that it may be more pleasing to the eye.

To make Dr. Lowther's Tincture, commonly called Daffy's Elixir.

Take of the best senna, guaiacum, liquorish slic'd small, anniseeds, coriander-seeds, and elicampane-root, of each half an ounce; raisins of the sun stoned, a quarter of a pound: Let them all be bruised, and put into a quart of the best aqua vitæ. The dose is two or three ounces. It gives present ease in the cholic.

How to make the King of France's Teeth Powder, famous for making the Teeth white, and preserving them from the Scurvy.

Take of chalk and pebble-stones burnt, of each one oz. myrrh, bole-armoniac and dragon's-blood, of each half an ounce, of ammoniacum and cuttle-bones, of each 3 drachms, let them be all finely powder'd.

For the Heart burning, or Acidity of the Stomach.

Take of the whitest chalk two ounces; of crabs-eyes and bole-armoniac, of each half an ounce; of oil of nutmegs ten drops; powder them, and take a quarter of an ounce at a time, in a draught of milk and water.

A very

A very good Remedy for an hollow aching Tooth.

Take of camphire and crude opium, of each four grains, make them into three pills, with as much oil of cloves as is convenient, roll them in cotton, apply one of them to the aching tooth, and repeat if there is occasion.

To fasten loose Teeth, and prevent the Tooth-ach.

Take myrrh and japan-earth, of each two drachms; bruise and boil them in a pint of claret, to the consumption of the third part, then strain it, and let it settle, wash your mouth with the clearest every morning. If your teeth are very foul, take a rag, and dip it in spirits of vitriol, and rub your teeth with it, washing your mouth with water after it.

A Medicine for the Cholick, which not only gives Ease in the most violent Fits, but also, being often us'd, prevents their returning.

Take of the best manna, and oil of sweet almonds, of each an ounce and a half chamomil-flowers boil'd in posset drink, an handful; let the posset-drink be strain'd from the flowers, and mingled very well with the oil of almonds and manna; let the patient take three days successively, and afterwards every third day for a fortnight.

Dr. B —y's Receipt for a consumptive Cough.

Take of the syrup of white and red poppies, of each three ounces; of barley, cinnamon-water, and red poppy-water, of each two ounces; of tincture of saffron, one ounce; liquid laudanum forty drops, and as much spirits of sulphur as will make it acid. Take three or four spoonfuls of it every night going to bed, increase or diminish the dose according as you find it agrees with you.

An effectual Remedy for an old Strain.

Take of crown-soap, a quarter of a pound; the strongest wort that you can get, a pint; of brandy two ounces; let them all boil together; about the latter

latter end, add to it myrth and bole armoniac, finely powder'd, of each three drachms, afterwards let it boil to the consistence of a plaister, which spread upon sheep's leather, and apply to the part affected. *To create a good Appetite, and strengthen the Stomach, by Dr. Lower.*

Take of the stomatic-pill with gums, extractum rudii, of each a drachm, resin of jalap, half a scruple; tartar vitriolated one scruple; oil of anniseeds, four drops; mix with syrup of violets, and make into pills; of which take four or five nights; they are of excellent use in the megrims, and vertigo, by reason they carry the humours off from the stomach, which fumes up into the head.

For a Wen.

Take of black soap, and unquench'd lime, of each a like quantity, mix them well together, and spread them upon sheep's leather; apply to the part affected, and it will consume away by degrees.

For a fresh Strain.

Take of linseed-oil, and rectified spirit of wine, of each two ounces; oil of spike, one ounce; mix, and rub the part very well with it, and lay to it a plaister of paracelsus, with an equal part of adbernium.

Sir Edmund King's Lip-Salve.

Take two penny-worth of virgins wax, melt it in a silver porringer, with orange-flower-water, let it cool and take the cake off, which melt again in fresh orange-flower-water, repeat doing so for three or four times, then put to the wax an ounce of oil of Behn, a scruple of saffron finely powder'd, and a lump of double refin'd sugar, about the bigness of a nutmeg, mix them well over the fire, keeping it stirring till it is cold, then work it with a knife on a marble, and keep it in a box for your use; if you would have it something redder, add a little alkanet-roots in powder.



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